	FLIGHT OPERATIONS OPERATIONS MANUAL PART C	DOCUMENT NUMBER QSP-AO-03
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FLIGHT OPERATIONS MANUAL

PART C

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OPERATION MANUAL

PART C

Route and Aerodrome Instruction and Information

Issued under the authority of the
Accountable Manager

	FLIGHT OPERATIONS OPERATIONS MANUAL PART C	DOCUMENT NUMBER QSP-AO-03
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FlyGeorgia FGA

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All references in the manual that refer to the 'Company' refer to FlyGeorgia (FGA)unless otherwise specified.

Approval Page

FLIGHT OPERATIONS MANUAL PART C

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0.2. MANUAL CONTENT

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Sub-Part 7	Search & Rescue facilities	Refer to Jeppesen documentation
Sub-Part 8	Description of aeronautical charts	Refer to Jeppesen documentation
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Sub-Part 16	MET General Information	Refer to chapter C.6 below
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Sub-Part 18	Airports Analysis	Refer to chapter C.8 below

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0.5. DISTRIBUTION LIST

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E4	M&E Director	E
E5	Flight Operations Director	E
E6	Ground Operations Manager	E
E7	Commercial Department	E
E8	SMS Safety Manager	E
E9	Aviation Security Officer	E
E10	GCAA	E
H2	GCAA	H
E11	Technical Library	E
H3	Technical Library	H
E12	Training Manager	E
E13	Chief Pilot	E
E14	Flight Safety Manager	E
E15	Head of Cabin Crew	E
E	All Cockpit Crew	E
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0.6. CORPORATE COMMITMENT BY THE CEO/ACCOUNTABLE MANAGER

Part C (The Route and Aerodrome Instructions and Information), Is approved by the undersigned and must be complied with, as applicable, in order to ensure that all FlyGeorgia (**FGA**) operations activities are carried out according to an approved standard. It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the GCAA and/or ICAO from time to time where these new or amended regulations are in conflict with these procedures.

This manual constitutes the Part C of the **FGA** Operations Manual (OM) and describes the required considerations for **FGA** to ensure that all personnel assigned to, or directly involved in, ground and flight operations act properly with respect the procedures in their intended particular duties and are aware of their responsibilities and the relationship of such duties to the operations as a whole.

The content of the manual complies with the requirements associated with an Airline Certificate Operator issued by GCAA and according to ICAO. The manual shall be notified and, for specific items, approved by the authorities as Part C (The Route and Aerodrome Instructions and Information).

The objective of this manual is not only to fulfill the regulatory requirements, but also to ensure that **FGA** procedures are well adapted in all areas of operation to maintain flight safety and reliability at all times.

Husain Nalkhanday
CEO & Accountable Manager
For and behalf of **FGA**

Date: _____



0.7. ABBREVIATIONS


ABBRV	Description	ABBRV	Description	ABBRV	Description
AAL	Above Aerodrome Level	AWY	Airway	DOM	Dry Operating Mass
ABBRV	Abbreviation	BAT	Battery	ECAM	Electronic Centralized Aircraft Monitoring
ABM	Abeam	BECMG	Fuel Consumption Monitoring Program	EDP	Electronic data Processing
A/C	Aircraft	BRNAV	Basic Area Navigation	EEP	ETOPS Entry Point
AC	Advisory Circular	BOTA	Brest Oceanic Transition Area	EFIS	Electronic Flight Instrument System
ACARS	ARINC Communication Addressing and Reporting system	C	Celsius	EIS	Electronic Instrument System
ACN	Aircraft Classification	CAPT	Captain	ELT	Entry Level Training
AD	Airworthiness Directive	CAR-OPS	Civil Aviation Regulations Operations	EMER	Emergency
ADF	Automatic Direction Finder	CAS	Calibrated Airspeed	ENG	Engine
ADIRS	Air Data Inertial Reference System	CAT	Category	ETA	Estimated Time of Arrival
AEA	Association of European Airlines	CAT	Clear Air Turbulence	ETD	Estimated Time of Departure
AFIS	Aerodrome Flight Information Service	CAT I	Landing Category I (II or III)	ETOPS	Extended Twin Operations
AFM	Aero plane Flight Manual	CAVOC	Ceiling and Visibility OK	ETP	Equi-Time Point
AGL	Above Ground Level	C/B	Circuit Breaker	EXP	Exit Point (ETOPS)
AH	Alert Height	CBT	Computer Based Training	F	Fahrenheit
AIP	Aeronautical Information Publication	CCQ	Cross Crew Qualification	FAA	Federal Aviation Administration
AIS	Aeronautical Information Services	CDL	Configuration Deviation List	FAF	Final Approach Fix
ALT	Altitude	CF	Contingency Fuel	FAP	Final Approach Point
ALN	Alternate	CFDS	Centralized Fault Display System	FCMP	Fuel Consumption Monitoring Program
ALS	Approach light system	CFP	Computerized Flight Plan	FCTM	Flight Crew Training Manual
AMM	Aircraft Maintenance Manual	CG	Centre of Gravity	FL	Flight Level
AMSL	Above Mean Sea Level	C/L	Check List	FPL	Flight Plan form
AOC	Air Operator Certificate	CL	Centre Line	FPM	Feet Per Minute
AOT	Air Operator Telex	CM ½	Crew Member	FSR	Flight Safety Report
A/P	Auto Pilot	CP	Critical Point (ETOPS)	FT	Feet
APA	Accident Prevention Advisor	CPL	Commercial Pilot License	FADEC	Full Authority Digital Engine Control
APQ	Air Pre-Qualification	CRM	Crew resource Management	FAR	Federal Aviation Regulations
APU	Auxiliary Power Unit	CRT	Cathode Ray Tube	FBS	Fixed Base Simulator
ASAP	As Soon As Possible	CRZ	Cruise	F/C	Flight Crew
ASC	Air Safety Committee	CSS	Cockpit System Simulator	FCL	Flight Crew Licensing
ASDA	Accelerate Stop Distance Available	CTA	Control Area	FCOM	Flight Crew Operating Manual
ASI	Air Speed Indicator	CVR	Cockpit Voice Recorder	FD	Flight Director
ASO	Aviation Security Officer			FF	Fuel Flow
ASR	Airport Surveillance Radar	DA	Decision altitude	FFS	Full Flight Simulator
ASU	Air Starter Unit	DGR	Dangerous Goods Regulations	FIR	Flight Information Region
ATA	Actual Time of Arrival	DEST	Destination	FLT	Flight
ATC	Air Traffic Control	DFDR	Digital Flight Data Recorder	FM	Flight Manual
ATD	Actual Time of Departure	FD	Director Flight Operations	FMA	Flight Mode Annunciator
ATHR	Autothrust	DH	Decision Height	FMGS	Flight Management Guidance System
ATIR	Air Transport Incident Report	DME	Distance Measuring Equipment	FMS	Flight Management System
ATIS	Automatic Terminal Information Service	DO	Director of Operations	FNPT	Flight Navigation Procedures Trainer
ATPL	Airline Transport Pilot License	DOA	Director of Airworthiness	F/O	First Officer
ATS	Air Transport Service(s)	DOC	Document	FOB	Fuel on Board
AWO	All Weather Operations	MD	Maintenance & Engineering Director	FOT	Flight Operations Telex

0.7 ABBREVIATIONS (CONTINUED)

ABBRV	Description	ABBRV	Description	ABBRV	Description
F-PLN	Flight Plan	Lb	pounds (weight)	NA	Not Applicable
FQI	Fuel Quantity Indication	LCN	Load Classification Number	NAI	Nacelle Anti Ice
Ft	Foot (Feet)	LDA	Landing Distance Available	NAT	North Atlantic
FU	Fuel Used	LDG	Landing	NAV	Navigation
FWD	Forward	LEP	List of Effective Pages	NIL	No Item Listed (Nothing)
GA	Go Around	L/G	Landing Gear	NM	Nautical Miles
GCAA	Georgian Civil Aviation Agency	LH	Left Hand	NDB	Non Directional Beacon
GEN	Generator	LLZ	Localizer	NOK	Next of kin
GMT	Greenwich Mean Time	LOC	Localizer	NDB	Non Directional Beacon
GPS	Global Positioning System	LOFT	Line Oriented Flight Training	NM	Nautical Mile(s)
GPWS	Ground Proximity Warning System	LVP	Low Visibility Procedures	NO	Number
GS	Ground Speed	LVTO	Low Visibility Take Off	NOTAM	Notice To Airmen
HDG	Heading	M	Mach	NOTOC	Notice to Captain
HF	High Frequency (3 to 30 MHz)	m	meter	NDB	Non Directional Beacon
Hg	Mercury	MAC	Mean Aerodynamic Chord	OAT	Outside Air Temperature
HIALS	High Intensity Approach Light System	MABH	Minimum Approach Break off Height	OCA/H	Obstacle Clearance Altitude / Height
HIL	Holding Items List	MAPT	Missed Approach Point	OCC	Operational Control Centre
HIRL	High Intensity Runway Lights	MAX	Maximum	OEB	Operations Engineering Bulletin
HIS	Hold Item Slip	Mb	Millibar	OEI	Operating Empty Weight
		MBOH	Minimum Break Off Height	OPIT	Operator Information Telex
HP	High Pressure	MCC	Multiple Crew Co-operation	OM	Outer Marker
hPa	hecto Pascal	MCDU	Multifunction Control and Display Unit	OPS	Operations
HUD	Head Up Display	MDA/H	Minimum Descent Altitude / Height	OPT	Optimum
Hz	Hertz (cycles per second)	MEL	Minimum Equipment List	OTS	Oceanic Track System
IAS	Indicated Air Speed	MHz	Megahertz	PA	Passenger Address
IATA	International Air Transport Association	MID	Middle Runway Portion	PANS	Procedures for Air Navigation Services
ICAO	International Civil Aviation Organization	MIALS	Medium Intensity Approach Light System	PAPI	Precision Approach Path Indicator
ID	Identity (Number)	MIN	Minimum	PAR	Precision Approach Radar
IDG	Integrated Drive Generator	MIRL	Medium Intensity Runway Light	PAX	Passenger
IEM	Interpretation/Explanation Material	MLS	Microwave Landing System	PCN	Pavement Classification Number
IFR	Instrument Flight Rules	MLW	Maximum Landing weight	PERF	Performance
IFSD	In-Flight Shut Down	Mm	Millimeter	PF	Pilot Flying
IFTB	In-Flight Turn Back	MMEL	Master Minimum Equipment List	PFD	Primary Flight Display
ILS	Instrument Landing System	MOM	Maximum Operating Mach	PIREP	Pilot Report
IMC	Instrumental Meteorological Conditions in inch(es)	MNPS	Min. Nav. Performance Specification	PIC	Pilot in Command
INOP	Inoperative	MOCA	Minimum Obstruction Clearance Altitude	PNR	Point of No Return
IOE	Initial Operating Experience	MORA	Minimum Off-Route Altitude	PNF	Pilot Not Flying
IRS	Inertial Reference System	MSA	Minimum Safe (or Sector) Altitude	PPG	Pilot Proficiency Group
IR	Instrument Rating	MSL	Mean Sea Level	PPR	Prior Permission Required
ISA	International Standard Atmosphere	MTOW	Maximum Take Off Weight	PSI	Pounds per Square Inch
ISO	International Standard Organization	MZFW	Maximum Zero Fuel Weight	PVI	Para visual Indicator
JAA	Joint Aviation Authorities	METAR	Routine Actual weather Report	PAR	Precision Approach Radar
JAR	Joint Aviation Regulations	MLM	Maximum Landing Mass	PIF	Pilot Information Folder
Kg	kilogram	MTOM	Maximum Take Off Mass	POR	Point Of Re-planning
KHz	kilohertz			PROB	Probability
Km	kilometer	MZFM	Maximum Zero Fuel Mass	QNH	Atmospheric Pressure at Sea Level
Kt	Knot	NAT	North Atlantic Transient route system	QAR	Quick Access Recorder

0.7 ABBREVIATIONS (CONTINUED)

ABBRV	Description	ABBRV	Description	ABBRV	Description
QD	Quality Assurance Director	SPD	Speed	VOL	Volume
QDM	Magnetic bearing to facility	SRA	Surveillance Radar Approach	VOR	VHF Omni directional Range
QDR	Magnetic bearing from facility	SRE	Surveillance Radar Element	VI	Critical engine failure speed
QFE	Actual atmosphere pressure at airport elevation.	STAR	Standard Terminal Arrival Route	V2	T/O safety speed
QFU	Magnetic orientation of runway	STD	Standard	VASI	Visual Approach Slope Indicator
QGH	Procedure or facility to be used	SYS	System	VFE	Maximum Velocity Flaps/slats Extended
QNE	Sea level standard atmosphere	TAF	Terminal aerodrome Forecast	VFR	Visual Flight Rules
QRH	Quick Reference Handbook	TCAS	Traffic Collision Avoidance System	VFTO	Velocity Final T/O
RA	Resolution Advisory	TEMP	Temporary	VHF	Very High Frequency (30 - 300 MHz)
RCLM	Runway Centre line Markings	TM	Training Manual	VMIN	Minimum operating speed
REF	Reference	TOC	Top Of Climb	VMO	Maximum operating speed
RIF	Re-planning In Flight	TOD	Top Of Descent	PVI	Para visual Indicator
R/T	Radio Telephony	TRE	Type Rated Examiner	VR	Rotation speed
RVSM	Reduced Vertical Separation Minimum airspace	TRI	Type Rated Instructor	VREF	Landing reference speed
RVR	Runway Visual Range	TYP	Type of aircraft	VS	Stall speed
RWY	Runway	T	ton, tonne	V/S	Vertical Speed
RAS	Repair Approval Sheet	TACAN	Tactical Air Navigation	VSI	Vertical Speed Indicator
RF	Reading File	TAF	Terminal Aerodrome Forecast	WAI	Wing Anti Ice
RH	Right Hand	TAS	True Air Speed	WBM	Weight and Balance Manual
RNP	Required Navigation Performance	TAT	Total Air Temperature	WGD	Windshield Guidance Display
RPL	Repetitive flight plan	TBA	To Be Available	WPT	Waypoint
RPM	Revolutions Per Minute	TBC	To Be Confirmed	WX	Weather
RQRD	Required	TBD	To Be Determined	WXR	Weather Radar
RTO	Rejected Take Off	TBN	To Be Notified	Z	Zulu time (UTC)
RTOW	Regulatory Take Off Weight	TDZ	Touch Down Zone	ZFCG	Zero Fuel Centre of Gravity
RVR	Runway Visual Range	TFU	Technical Follow-Up	ZFW	Zero Fuel Weight
SAFA	Safety Assessment of Foreign Aircraft	T/O	Take-Off		
SANA	Safety Assessment of National Aircraft	TOGA	Take-Off/Go-Around		
SC	Service Check	TOGW	Take-Off Gross Weight		
SITA	Société Internationale de Télécommunications Aeronautiques	TORA	Take-off Run Available		
SRE	Surveillance Radar Element	TOW	Take-Off Weight		
SSA	Sector Safe Altitude	TWR	Tower		
STAR	Standard Terminal Arrival Route	TWY	Taxi way		
SOLI	State Of License Issue	UFSR	Urgent Flight Safety Report		
SAE	Society of Automotive Engineers	UN	United Nations		
SAT	Static Air Temperature	UTC	Universal Time Coordinated		
SB	Service Bulletin				
SID	Standard Instrument Departure	UHF	Ultra High Frequency (300 - 3000 MHz)		
SIGMET	Information concerning en-route weather phenomena, which may affect the safety of Aircraft operations	U/S	Unserviceable		
SIL	Service Information Letter	VFR	Visual Flight Rules		
SOP	Standard Operating Procedures	VIC	In the Vicinity		
SOTA	Shannon Oceanic Transition Area	VIS	Visibility		
SPECI	Aviation selected special weather report	VMC	Visual Meteorological Conditions		

	FLIGHT OPERATIONS OPERATIONS MANUAL PART C	DOCUMENT NUMBER QSP-AO-03 ISSUE: ORIGINAL
	GENERAL	

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OM PART C - 1. CHOICE OF ALTERNATE AIRPORTS

1.1. INFORMATION

In the table below, priority n°1 is at all-time based upon safety considerations, including airport facility, suitability, availability, weather and performance. Priority n°2 is based upon maintenance and ground operations considerations. Priority n°3 is based upon commercial considerations.

1.2. TABLE OF ALTERNATE AIRPORTS

DESTINATION	ICAO CODE	IATA CODE	PRIORITY	ALTERNATE	ICAO CODE	IATA CODE	DISTANCE	REMARKS
ABU DHABI	OMAA	AUH	1	DUBAI	OMDB	DXB	70	
			2	SHARJAH	OMSJ	SHJ	77	
			3	TBD				
AHMADABAD	VAAH	AMD	1	MUMBAI	VABB	BOM	240	
			2	NAGPUR	VANP	NAG	373	
			3	TBD				
AKTAU	UATE	SCO	1	MAKHACHKALA	URML	MCX	163	
			2	BAKU	UBBB	GYD	217	
			3	TBD				
ALMATY	UAAA	ALA	1	BISHKEK	UAFM	FRU	111	
			2	SHYMKENT	UAIL	CIT	339	
			3	TBD				
AMSTERDAM	EHAM	AMS	1	BRUSSELS	EBBR	BRU	84	
			2	MAASTRICHT	EHBK	MST	91	
			3	OSTEND	EBOS	OST	97	

1.2 TABLE OF ALTERNATE AIRPORTS (Continued)

DESTINATION	ICAO CODE	IATA CODE	PRIORITY	ALTERNATE	ICAO CODE	IATA CODE	DISTANCE	REMARKS
ANKARA	LTAC	ESB	1	SAMSUN	LTFH	SSX	167	
			2	SABIHA	LTFJ	SAW	174	
			3	TBD				
ATHENS	LGAV	ATH	1	SALONIKI	LGTS	SKG	164	
			2	HERAKLION	LGIR	HER	170	
			3	TBD				
BAHRAIN	OBBI	BAH	1	DAMMAM	OEDF	DMM	46	
			2	DOHA	OTBD	DOH	76	
			3	TBD				
BARCELONA	LEBL	BCN	1	VALENCIA	LEVC	VLC	161	
			2	MADRID	LEMD	MAD	262	
			3	TBD				
BEIRUT	OLBA	BEY	1	DAMASCUS	OSDI	DAM	43	
			2	LARNACA	LCLK	LCA	110	
			3	TBD				
BERLIN	EDDB	SXF	1	HANNOVER	EDDV	HAJ	136	
			2	HAMBURG	EDDH	HAM	146	
			3	BONN	EDKB	BNJ	262	
CAIRO	HECA	CAI	1	ALEXANDRIA	HEAX	ALY	99	
			2	RAS NASRANI	HESH	SSH	225	
			3	LUXOR	HELX	LXR	274	
COPENHAGEN	EKCH	CPH	1	ODENSE	EKOD	ODE	77	
			2	GOTHENBURG	ESGG	GOT	129	
			3	TBD				

1.2 TABLE OF ALTERNATE AIRPORTS (Continued)

DESTINATION	ICAO CODE	IATA CODE	PRIORITY	ALTERNATE	ICAO CODE	IATA CODE	DISTANCE	REMARKS
DAMASCUS	OSDI	DAM	1	BEIRUT	OLBA	BEY	43	
			2	AMMAN	OJAI	AMM	92	
			3	TBD				
DAMMAM	OEDF	DMM	1	BAHRAIN	OBBI	BAH	46	
			2	DOHA	OTBD	DOH	120	
			3	RIYADH	OERK	RUH	204	
DELHI	VIDP	DEL	1	JAIPUR	VIJP	JAI	125	
			2	LAHORE	OPLA	LHE	227	
			3	LUCKNOW	VILK	LKO	228	
DOHA	OTBD	DOH	1	BAHRAIN	OBBI	BAH	76	
			2	DAMMAM	OEDF	DMM	120	
			3	ABUDHABI	OMAA	AUH	161	
DUBAI	OMDB	DXB	1	SHARJAH	OMSJ	SHJ	9	
			2	ALAIN	OMAL	AAN	63	
			3	ABU DHABI	OMAA	AUH	70	
DUSSELDORF	EDDL	DUS	1	BONN	EDKB	BNJ	35	
			2	FRANKFURT	EDFH	HHN	82	
			3	FRANKFURT	EDDF	FRA	103	
FRANKFURT	EDDF	FRA	1	FRANKFURT	EDFH	HHN	51	
			2	KOLN BONN	EDDK	CGN	74	
			3	STUTT GART	EDDS	STR	85	
ISFAHAN	OIFM	IFN	1	TEHRAN	OIIE	IKA	169	
			2	TEHRAN	OIII	THR	178	
			3	SHIRAZ	OISS	SYZ	200	

1.2 TABLE OF ALTERNATE AIRPORTS (Continued)

DESTINATION	ICAO CODE	IATA CODE	PRIORITY	ALTERNATE	ICAO CODE	IATA CODE	DISTANCE	REMARKS
ISLAMABAD	OPRN	ISB	1	PESHAWAR	OPPS	PEW	78	
			2	LAHORE	OPLA	LHE	142	
			3	TBD				
ISTAMBUL	LTBA	IST	1	ISTANBUL	LTFJ	SAW	23	
			2	IZMIR	LTBK	ADB	183	
			3	ANKARA	LTAC	ESB	197	
JEDDAH	OEJN	JED	1	TAIF	OETF	TIF	78	
			2	MADINAH	OEMA	MED	184	
			3	ABHA	OEKM	AHB	286	
KARACHI	OPKC	KHI	1	AHMEDABAD	VAAH	AMD	318	
			2	MUMBAI	VABB	BOM	473	
			3	TBD				
KIEV	UKBB	KBP	1	GOMEL	UMGG	GME	124	
			2	KHARKIV	UKHH	HRK	210	
			3	DNIPROPETRO	UKDD	DNK	212	
KOLKATA	VECC	CCU	1	TBD				
			2	TBD				
			3	TBD				
KUWAIT	OKBK	KWI	1	ABADAN	OIAA	ABD	69	
			2	BASRAH	ORMM	BSR	80	
			3	DAMMAM	OEDF	DMM	203	
LAHORE	OPLA	LHE	1	ISLAMABAD	OPRN	ISB	142	
			2	PESHAWAR	OPPS	PEW	208	

1.2 TABLE OF ALTERNATE AIRPORTS (Continued)

DESTINATION	ICAO CODE	IATA CODE	PRIORITY	ALTERNATE	ICAO CODE	IATA CODE	DISTANCE	REMARKS
LONDON-GATWICK	EGKK	LGW	1	LONDON-STAN	EGSS	STN	47	
			2	BIRMINGHAM	EGBB	BHX	97	
			3	MANCHESTER	EGCC	MAN	153	
LONDON-HEATHROW	EGLL	LHR	1	LONDON-GAT	EGKK	LGW	22	
			2	LONDON-STAN	EGSS	STN	36	
			3	BIRMINGHAM	EGBB	BHX	77	
LUXEMBOURG	ELLX	LUX	1	KOLN BONN	EDDK	CGN	82	
			2	FRANKFURT	EDDF	FRA	95	
			3	BRUSSELS	EBBR	BRU	103	
MADRID	LEMD	MAD	1	VALENCIA	LEVC	VLC	148	
			2	BARCELONA	LEBL	BCN	262	
			3	TBD				
MANCHESTER	EGCC	MAN	1	BIRMINGHAM	EGBB	BHX	57	
			2	LONDON	EGSS	STN	127	
			3	GLASGOW	EGPK	PIK	153	
MASHHAD	OIMM	MHD	1	ASHGABAT	UTAA	ASB	122	
			2	SARI	OINZ	SRY	313	
			3	TBD				
MILAN	LIMC	MXP	1	BOLOGNA	LIPE	BLQ	128	
			2	TORINO	LIMF	TRN	135	
			3	VENEZIA	LIPZ	VCE	154	
MINSK	UMMS	MSQ	1	MINSK-LOSHIT	UMMM	MHP	17	
			2	VILNIUS	EYVI	VNO	91	
			3	GOMEL	UMGG	GME	135	

1.2 TABLE OF ALTERNATE AIRPORTS (Continued)

DESTINATION	ICAO CODE	IATA CODE	PRIORITY	ALTERNATE	ICAO CODE	IATA CODE	DISTANCE	REMARKS
MOSCOW	UUEE	SVO	1	MOSCOW-VNU	UUWW	VKO	23	
			2	MOSCOW-DON	UUDD	DME	38	
			3	MINSK	UMMS	MSQ	365	
MUMBAI	VABB	BOM	1	AHMEDABAD	VAAH	AMD	240	
			2	HYDERABAD	VOHY	HYD	334	
			3	NAGPUR	VANP	NAG	369	
MUNICH	EDDM	MUC	1	NURNBERG	EDDN	NUE	71	
			2	STUTTGART	EDDS	STR	105	
			3	FRANKFURT	EDDF	FRA	162	
MUSCAT	OOMS	FCO	1	ALAIN	OMAL	AAN	144	
			2	CHAHBAHAR	OIZC	ZBR	160	
			3	DUBAI	OMDB	DXB	188	
PARIS	LFPG	CDG	1	PARIS-ORLY	LFPO	ORY	18	
			2	BRUSSELS	EBBR	BRU	137	
			3	LYON	LFLL	LYS	269	
PESHAWAR	OPPS	PEW	1	ISLAMABAD	OPRN	ISB	78	
			2	LAHORE	OPLA	LHE	208	
			3	TBD				
RIYADH	OERK	RUH	1	DAMMAM	OEDF	DMM	190	
			2	BAHRAIN	OBBI	BAH	221	
			3	DOHA	OTBD	DOH	263	
ROME FCO	LIRF	FCO	1	ROME-CIAMPI	LIRA	CIA	16	
			2	GENOA	LIMG	GOA	210	
			3	MILAN	LIML	LIN	247	

1.2 TABLE OF ALTERNATE AIRPORTS (Continued)

DESTINATION	ICAO CODE	IATA CODE	PRIORITY	ALTERNATE	ICAO CODE	IATA CODE	DISTANCE	REMARKS
SHIRAZ	OISS	SYZ	1	KISH	OIBK	KIH	195	
			2	ISFAHAN	OIFM	IFN	200	
			3	BANDARABBAS	OIKB	BND	243	
STOCKHOLM	ESSA	ARN	1	GOTEBORG	ESGG	GOT	222	
			2	MALMO	ESMS	MMY	276	
			3	TBD				
TEHRAN IKA	OIIE	IKA	1	TEHRAN-MEHR	OIII	THR	18	
			2	RASHT	OIGG	RAS	136	
			3	ISFAHAN	OIFM	IFN	164	
TEHRAN MEH	OIII	THR	1	TEHRAN	OIIE	IKA	18	
			2	RASHT	OIGG	RAS	128	
			3	ISFAHAN	OIFM	IFN	178	
TEL AVIV	LLBG	TLV	1	LARNAKA	LCLK	LCA	194	
			2	PAPHOS	LCPH	PFO	251	
			3	TBD				
VIENNA	LOWW	VIE	1	GRAZ	LOWG	GRZ	80	
			2	BUDAPEST	LHBP	BUD	126	
			3	MUNICH	EDDM	MUC	183	
ZURICH	LSZH	ZRH	1	MUNICH	EDDM	MUC	141	
			2	FRANKFURT	EDDF	FRA	156	
			3	FRANKFURT	EDFH	HHN	158	

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1.3. CONSIDERATION TO HELP CREW TO CHOOSE EN-ROUTE EMERGENCY AIRPORTS

This section is intended to assist pilots in the selection of an airport for a safe landing when circumstances necessitate a change from the planned route, destination, destination alternate or en-route alternate.

In the event that operations over remote or sparsely populated areas are being conducted and an en-route emergency airport is required, there is nothing to prevent pilots from considering airports that are not listed for diversion. However, it is the responsibility of the Commander to ensure that the aircraft performance requirements are met and the deviation from the prescribed criteria is justified under the circumstances.

Depending on the severity of the Emergency, the following are considerations (not mandatory);

- dependent on the severity of the emergency that may be taken into account when determining adequacy of an en-route airport :
 - Jet fuel availability.
 - Runway width of 45 m or better.
 - LDA of 2100 m or better.
 - Airport operating timings
 - Fire category of 4 or better.
 - No category C airport (other than a destination).

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	AERODROME CATEGORIZATION FOR FGA	ISSUE: ORIGINAL

OM PART C - 2. AERODROME CATEGORIZATION FOR FGA

2.1. CATEGORIZATION

2.1.A. CATEGORY A

Categories A aerodromes satisfy 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 1000 ft AGL; and
- Night operations capability.

Prior operating to such aerodromes, the Commander shall be briefed or self brief.

2.1.B. CATEGORY B

Category B aerodromes do not satisfy the Category A requirements or require 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.

Prior operating to such aerodromes, the Commander shall be briefed or self brief.

Certain Category B aerodromes are allocated a higher restricted rating, prior to operating into a restricted aerodrome, the Commander must receive approval for that specific destination, by the Director of Flight Operations, the Chief Pilot or the Training Manager.

2.1.C. CATEGORY C:

Category C aerodromes require additional considerations to Category B aerodromes.

These aerodromes have significant factors affecting the complexity and workload of the flight.

Prior to operating to a Category C aerodrome, the Commander should be briefed and visit the aerodrome as an observer and/or undertake instruction in a flight simulator or by other means as authorized by the Training Manager.


Prior to operating, the Commander must receive approval from the Director of Flight Operations, the Chief Pilot or the Training Manager.

2.2. AIRPORT LIST AND CATEGORY


Airport		Category if destination airport	Category if alternate airport	Remarks
Name	ICAO Code			
ABU DHABI	OMAA	A	A	
AHMEDABAD	VAAH	A	A	
AKTAU	UATE	A	A	
ALMATY	UAAA	B	A	
AMMAN	OJAI	B	A	
AMSTERDAM	EHAM	A	A	
ANKARA	LTAC	B	A	
ATHENS	LGAV	A	A	
BAHRAIN	OBBI	A	A	
BARCELONA	LEBL	B	A	
BEIRUT	OLBA	B	A	
BERLIN	EDDT	A	A	
CAIRO	HECA	A	A	
COPENHAGEN	EKCH	A	A	
DAMASCUS	OSDI	B	A	
DAMMAM	OEDF	A	A	
DEHLI	VIDP	A	A	
DOHA	OTBD	B	A	
DUBAI	OMDB	A	A	
DUSSELDORF	EDDL	A	A	
FRANKFURT	EDDF	A	A	
GENEVA	LSGG	B	A	
ISLAMABAD	OPRN	A	A	
ISTAMBUL	LTBA	A	A	
JEDDAH	OEJN	A	A	
KARACHI	OPKC	A	A	
KIEV	UKBB	A	A	
KOLKATA	VECC	A	A	
KUWAIT	OKBK	A	A	
LAHORE	OPLA	A	A	
LONDON - GATWICK	EGKK	A	A	
LONDON - HEATHROW	EGLL	A	A	
LILLE	LFQQ	A	A	
LUXEMBOURG	ELLX	A	A	

2.2 AIRPORT LIST AND CATEGORY (CONTINUED)

Airport	Category if destination airport	Category if alternate airport	Remarks	
Name	ICAO Code			
MADRID	LEMD	B	A	
MANCHESTER	EGCC	A	A	
MASHHAD	OIMM	A	A	
MILAN	LIMC	A	A	
MINSK	UMMS	A	A	
MOSCOW	UUEE	A	A	
MUMBAI	VABB	B	A	
MUNICH	EDDM	A	A	
MUSCAT	OOMS	A	A	
PARIS CDG	LFPG	B	A	
PARIS ORY	LFPO	A	A	
PESHAWAR	OPPS	B	A	
RIYADH	OERK	A	A	
ROME FCO	LIRF	A	A	
STOCKHOLM	ESSA	A	A	
T'BILISI	UGTB	A	A	
TEHRAN IKA	OIIE	B	A	
TEHRAN MEH	OIII	B	A	
TEL AVIV	LLBG	B	A	
VIENNA	LOWW	A	A	
ZARAGOZA	LEZG	B	A	
ZURICH	LSZH	B	A	


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	FLIGHT OPERATIONS OPERATIONS MANUAL PART C	DOCUMENT NUMBER QSP-AO-03 ISSUE: ORIGINAL
	FUEL SUPPLIERS FOR FGA	

OM PART C - 3. FGA FUEL SUPPLIERS

Refer to Ground OPS Manual


	FLIGHT OPERATIONS OPERATIONS MANUAL PART C	DOCUMENT NUMBER QSP-AO-03 ISSUE: ORIGINAL
	FUEL SUPPLIERS FOR FGA	

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	FLIGHT OPERATIONS OPERATIONS MANUAL PART C	DOCUMENT NUMBER QSP-AO-03 ISSUE: ORIGINAL
	MAINTENANCE ABROAD FOR FGA	

OM PART C - 4. MAINTENANCE ABROAD FOR FGA

Refer to Maintenance Manuals

	FLIGHT OPERATIONS OPERATIONS MANUAL PART C	DOCUMENT NUMBER QSP-AO-03 ISSUE: ORIGINAL
	MAINTENANCE ABROAD FOR FGA	

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	FLIGHT OPERATIONS OPERATIONS MANUAL PART C	DOCUMENT NUMBER QSP-AO-03 ISSUE: ORIGINAL
	GENERAL INFORMATION FOR AIRPORTS	

OM PART C - 5. GENERAL INFORMATION FOR AIRPORTS INCLUDING WEATHER SPECIFICS

5.1. HIGH ELEVATION AIRPORTS

Airports of high elevation cause the aircraft to operate at higher Density Altitudes during the Takeoff and Landing phase than pilots are routinely familiar with. The most prominent effect being the, True Airspeed (TAS) Effect.

This TAS effect causes some notable considerations.

5.1.A. TAKE-OFF:

At 7000 ft and ISA + 20, high elevation and temperatures can generate a TAS effect of up to 25 knots at V₂ and produce lift-off speeds close to the maximum tire speed limitation. A slow rotation could produce a VLOF above maximum tire speed. During a two engine climb at V₂ + 10 (IAS 165), the TAS can be as high as 200 kit at 10,000 ft.


When 2 engine aircraft are operated, all engines operating performance is acceptable and not limiting except for tire speed. However, one engine inoperative, obstacle limited performance is very marginal with little excess performance at normal operating weights.

5.1.B. APPROACH AND LANDING:

Normal intermediate approach speed of 250 kts IAS, can give a TAS of up to 330 kts. This will make it much harder to decelerate to approach speed, especially if you are "high". Early deceleration therefore is a good conservative precaution. High TAS has to be taken into consideration when maneuvering as radius of turn is considerably more than at sea level. Stabilized rate of descent on a 3 degree glide slope is between 850 and 900 fpm on final in the landing configuration at VAPP. At CONF FULL and VAPP, the TAS is typically 20 knots above the indicated airspeed, resulting in the necessity to commence the flare earlier with high groundspeed on touchdown. Relative to sea level, much higher energy levels exist at the commencement of deceleration.

5.1.C. FLARE:

There is tendency to over-rotate if the flare is started late and the sink rate does not reduce as anticipated due to the density altitude. This causes an increased risk of tail strikes.

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5.1.D. OPERATIONAL CONSIDERATIONS:

- Avoid downwind Take-offs, or ensure V2 is well below max. Tire speed.
- Avoid Landing with tailwind.
- Tire Speed limitations can be critical at high Take-off weights.
- A Rejected Take-off (RTO) close to V1 will cause Brake Temperature issues.
- Hydroplaning is more likely even with small depths of contamination on runway.

5.1.E. RULE OF THUMB:

<p>Density Altitude = Airfield Altitude + 1000 feet per 8 degrees</p>

Example: Sana'a (OYSN) elevation 7,200 ft. With an OAT of 25 degrees (ISA + 24) the density altitude is 10,200 ft.

5.2. ALTIMETRY

5.2.A. METERS UNIT AND ALTIMETRY

Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Uzbekistan.
--

Units of Measure	Approximate Conversion
Ht, elevation, FL : meters	M x 3.3 = feet
Surface wind : Meters per sec	M/sec x 2 = knots
Rate of Des/Climb : Meters per sec.	M/sec x 200 = ft/min
Speed and Upper wind : Km/hr (Kph)	Km/hr / 2 = knots
Cloud :	Tenths or Octas
Distance : Km and Meters	NM x 1.85 = Km
QFE / QNH : (mm, Hg) mb to foreign operators	

5.2.B. ALTITUDES

- Altitudes and Flight Levels in meters (METRIC CRUISING LEVELS table section 2.8)
- Below Transition Altitude reference could be QFE. But QNH is available on request. It may be included on the ATIS.
- Winter Temperatures may require Cold Temperature Corrections to Altitudes


5.2.C. BORDER CROSSING

See Jeppesen Flight Info Supplement, ATC Russia.

However, if there is direct ground communication between ATC units then aircraft will receive clearance to enter airspace on the frequency in use.

The change in cruising level system is normally coordinated. The phrase “*ADJUST TO FLIGHT LEVEL*” or “*ADJUST TO LEVEL METERS*” will probably be used.

Otherwise contact the ATC 10 min. prior to entering FIR and coordinate ahead of time.

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5.2 ALTIMETRY (CONTINUED)

5.2.D. ALTIMETER SETTING PROCEDURES

5.2.D. i) *Above Transition Level:*

When above the transition level (flying altitudes referenced to STD = QNE) the procedures are straight forward. Simply convert the cleared FL meters to FL feet using the tables or the metric Pb on the FCU to find the equivalent altitude in feet, and set it.

5.2.D. ii) *Below Transition level:*

Setting QFE (height above runway) on the FCU is not permitted according to SOPs. Most stations will be able to give you QNH. Then you can set cleared altitude according to the Meters – Feet conversion chart on the Jeppesen En-route Charts or the Tables below.

If given a QFE meters clearance and QNH is available: Set QNH. The Jeppesen Approach Chart will have an “Alt/Height Conversion” box in the plan view where you will find the QNH equivalent to the QFE heights.


If given a QFE meters clearance and QNH is not available: The pilot will have to convert QFE to QNH manually and then convert meters to feet:

- On the Jeppesen approach plate, below the Missed Approach box, there will be the runway elevation (RwyElev) in pressure equivalent: mb or hPa.
- Add this value to QFE to obtain QNH
- To convert the QFE meters altitudes to feet, use the Meters – Feet conversion tables, and then add to this the field elevation to obtain QNH altitude Feet and set it.

Use extreme caution when working with QFE conversions!

5.2.D. iii) *Speed Control:*

Speed restriction below 3000 m AAL down to transition level:	250 kts IAS
Maximum rate of descent below 3000 m AAL:	3000 fpm.

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5.2 ALTIMETRY (CONTINUED)

5.2.E. TABLES

5.2.E. i) *Unit of Conversion*

	METRIC > US	US > METRIC
Length	1 mm = 0.0394 in 1 m = 3.281 ft 1 m = 1.094 yd 1 km = 0.540 NM 1 km = 0.6215 SM 1 NM = 1.852 km 1 NM = 5075.6 ft 1 NM = 1851.85 m 1 NM = 1.1507 SM	1 in = 25.4 mm 1 ft = 0.3048 m 1 ft = 0.00016 NM 1 ft = 0.00019 SM 1 SM = 1.609 km 1 SM = 5280 ft 1 SM = 1609.34 m 1 SM = 0.86905 NM 1 yd = 0.914 m
Speed	1 m/s = 3.281 ft/s = 1.944 kts 1 km/h = 0.54 kts	1 ft/s = 0.3048 m/s 1 kts = 1.852 km/h = 0.514 m/s
Weight	1 g = 0.353 oz 1 kg = 2.2046 lb 1 t (tonne) = 2 204.6 lb	1 oz = 28.35 g 1 lb = 0.4536 kg 1 lb = 0.0004536 t
Force	1 N = 0.2248 lb 1 daN = 2.248 lb	1 lb = 4.448 N 1 lb = 0.4448 daN
Pressure	1 bar = 14.505 PSI 1 mbar = 1 hPa = 0.0145 PSI 1 mbar = 1 hPa = 0.02953 In Hg	1 PSI = 6892 Pa = 0.0689 bar 1 PSI = 68.92 hPa = 68.92 mbar 1 In Hg = 33.864 hPa = 33.864 mbar
Volume	1 ltr = 0.2642 US Gallon 1 ltr = 0.219975 IMP Gallon 1 ltr = 1.0567 US Quart 1 m3 = 264.2 US Gallons 1 IMP Gallon = 4.545962 ltr	1 US Gallon = 3.785 ltr 1 US Gallon = 0.83268 IMP Gallon 1 US Gallon = 0.003785 m3 1 US Quart = 0.94635 ltr 1 IMP Gallon = 1.2009 US Gallon
Momentum	1 m.daN = 88.5 lbs in	1 lbs.in = 0.0113 m.daN
Temperature	°C = 5/9 (*F - 32) °C = 5/9 (*F + 40) - 40	°F = (*C x 1.8) + 32 °F = 9/5 (*C + 40) - 40

5.2 ALTIMETRY (CONTINUED)

5.2.E. ii) *International Standard Atmosphere*

Altitude (Feet)	Temp. (°C)	PRESSURE			Pressure Ratio $\sigma = P/P_0$	Density $\sigma = \rho/\rho_0$	Speed of Sound (kt)	Altitude (metres)
		hPa	Psi	In.Hg				
40 000	-56.5	183	2.72	5.54	0.1851	0.2462	573	12 192
39 000	-56.5	197	2.58	5.81	0.1942	0.2583	573	11 887
38 000	-56.5	206	2.99	6.10	0.2038	0.2710	573	11 582
37 000	-56.5	217	3.14	6.40	0.2138	0.2844	573	11 278
36 000	-56.3	227	3.30	6.71	0.2243	0.2981	573	10 973
35 000	-54.3	238	3.46	7.04	0.2353	0.3099	576	10 668
34 000	-52.4	250	3.63	7.38	0.2467	0.3220	579	10 363
33 000	-50.4	262	3.80	7.74	0.2586	0.3345	581	10 058
32 000	-48.4	274	3.98	8.11	0.2709	0.3473	584	9 754
31 000	-46.4	287	4.17	8.49	0.2837	0.3605	586	9 449
30 000	-44.4	301	4.36	8.89	0.2970	0.3741	589	9 144
29 000	-42.5	315	4.57	9.30	0.3107	0.3881	591	8 839
28 000	-40.5	329	4.78	9.73	0.3250	0.4025	594	8 534
27 000	-38.5	344	4.99	10.17	0.3398	0.4173	597	8 230
26 000	-36.5	360	5.22	10.63	0.3552	0.4325	599	7 925
25 000	-34.5	376	5.45	11.10	0.3711	0.4481	602	7 620
24 000	-32.5	393	5.70	11.60	0.3876	0.4642	604	7 315
23 000	-30.8	410	5.95	12.11	0.4046	0.4806	607	7 010
22 000	-28.6	428	6.21	12.64	0.4223	0.4976	609	6 706
21 000	-26.6	446	6.47	13.18	0.4406	0.5150	611	6 401
20 000	-24.6	466	6.75	13.75	0.4595	0.5328	614	6 096
19 000	-22.6	485	7.04	14.34	0.4791	0.5511	616	5 791
18 000	-20.7	506	7.34	14.94	0.4994	0.5699	619	5 486
17 000	-18.7	527	7.65	15.57	0.5203	0.5892	621	5 182
16 000	-16.7	549	7.97	16.22	0.5420	0.6090	624	4 877
15 000	-14.7	572	8.29	16.89	0.5643	0.6292	626	4 572
14 000	-12.7	596	8.63	17.58	0.5875	0.6500	628	4 267
13 000	-10.8	619	8.99	18.29	0.6113	0.6713	631	3 962
12 000	- 8.8	644	9.35	19.03	0.6360	0.6932	633	3 658
11 000	- 6.8	670	9.72	19.79	0.6614	0.7156	636	3 353
10 000	- 4.8	697	10.10	20.58	0.6877	0.7385	638	3 048
9 000	- 2.8	724	10.51	21.39	0.7148	0.7620	640	2 743
8 000	- 0.8	753	10.92	22.22	0.7428	0.7860	643	2 438
7 000	+ 1.1	782	11.34	23.09	0.7716	0.8106	645	2 134
6 000	+ 3.1	812	11.78	23.98	0.8014	0.8359	647	1 829
5 000	+ 5.1	843	12.23	24.90	0.8320	0.8617	650	1 524
4 000	+ 7.1	875	12.69	25.84	0.8637	0.8881	652	1 219
3 000	+ 9.1	908	13.17	26.82	0.8962	0.9151	654	914
2 000	+11.0	942	13.67	27.82	0.9298	0.9428	656	610
1 000	+13.0	977	14.17	28.86	0.9644	0.9711	659	305
0	+15.0	1013	14.70	29.92	1.0000	1.0000	661	0
- 1 000	+17.0	1050	15.23	31.02	1.0366	1.0296	864	- 305

5.2 ALTIMETRY (CONTINUED)

5.2.E. iii) Meters to Feet Conversion Table

Metros	Feet	Metros	Feet	Metros	Feet	Metros	Feet
100	300	3300	10,800	6500	21,300	9700	31,800
200	700	3400	11,200	6600	21,600	9800	32,100
300	1000	3500	11,500	6700	22,000	9900	32,500
400	1300	3600	11,800	6800	22,300	10,000	32,800
500	1600	3700	12,100	6900	22,600	10,100	33,100
600	2000	3800	12,500	7000	23,000	10,200	33,500
700	2300	3900	12,800	7100	23,300	10,300	33,800
800	2600	4000	13,100	7200	23,600	10,400	34,100
900	3000	4100	13,400	7300	23,900	10,500	34,400
1000	3300	4200	13,800	7400	24,300	10,600	34,800
1100	3600	4300	14,100	7500	24,600	10,700	35,100
1200	3900	4400	14,400	7600	24,900	10,800	35,400
1300	4300	4500	14,800	7700	25,300	10,900	35,800
1400	4600	4600	15,100	7800	25,600	11,000	36,100
1500	4900	4700	15,400	7900	25,900	11,100	36,400
1600	5200	4800	15,700	8000	26,200	11,200	36,700
1700	5600	4900	16,100	8100	26,600	11,300	37,100
1800	5900	5000	16,400	8200	26,900	11,400	37,400
1900	6200	5100	16,700	8300	27,200	11,500	37,700
2000	6600	5200	17,100	8400	27,600	11,600	38,000
2100	6900	5300	17,400	8500	27,900	11,700	38,400
2200	7200	5400	17,700	8600	28,200	11,800	38,700
2300	7500	5500	18,000	8700	28,500	11,900	39,000
2400	7900	5600	18,400	8800	28,900	12,000	39,400
2500	8200	5700	18,700	8900	29,200	12,100	39,700
2600	8500	5800	19,000	9000	29,500	12,200	40,000
2700	8900	5900	19,400	9100	29,800	13,000	42,600
2800	9200	6000	19,700	9200	30,200	13,100	43,000
2900	9500	6100	20,000	9300	30,500	14,000	45,900
3000	9800	6200	20,300	9400	30,800		
3100	10,200	6300	20,700	9500	31,200		
3200	10,500	6400	21,000	9600	31,500		

5.2 ALTIMETRY (CONTINUED)

5.2.E. iv) *Metric Flight Levels*

000° to 179° TRUE		180° to 359° TRUE	
Meters	Feet	Meters	Feet
12,100	39,700	13,100	43,000
11,100	36,400	11,600	38,100
10100	33,100	10,600	34,800
9100	29,900	9600	31,500
8100	26,600	8600	28,200
7500	24,600	7800	25,600
6900	22,600	7200	23,600
6300	20,700	6600	21,700
5700	18,700	6000	19,700
5100	16,700	5400	17,700
4500	14,800	4800	15,700
3900	12,800	4200	13,800
3300	10,800	3600	11,800
2700	8900	3000	9800
2100	6900	2400	7900
1500	4900	1800	5900
900	3000	1200	3900

5.2 ALTIMETRY (CONTINUED)

5.2.E. v) *Metric Winds / Knots / Feet Per Minute*

M / Sec	kts	ft / min
1	2	197
1.5	3	295
2	4	394
2.5	5	492
3	6	591
3.5	7	689
4	8	787
4.5	9	885
5	10	984
5.5	11	1082
6	12	1181
6.5	13	1279
7	14	1378
7.5	15	1476
8	16	1575
8.5	17	1673
9	18	1772
9.5	19	1870
10	20	1969
10.5	21	2067
11	22	2165
11.5	23	2263
12	24	2362

M / Sec	kts	ft / min
12.5	25	2460
13	26	2559
13.5	27	2657
14	28	2756
14.5	29	2854
15	30	2953
15.5	31	3051
16	32	3150
16.5	33	3248
17	34	3346
17.5	35	3444
18	36	3543
18.5	37	3641
19	38	3740
19.5	39	3838
20	40	3937

5.2 ALTIMETRY (CONTINUED)

5.2.F. ALTITUDE TEMPERATURE CORRECTION CHART


The calculated minimum safe altitudes/heights must be corrected when the OAT is much lower than that predicted by the standard atmosphere.

The correction has to be applied on the height above the elevation of the altimeter setting source.

The altimeter setting source is generally the atmosphere pressure at an airport, and the correction on the height above the airport has to be applied on the indicated altitude. The same correction value is applied when flying at either QFE or at QNH

Values to be added by the pilot to minimum promulgated heights/altitudes (ft):

Aerodrome Temperature (°C)	Height above the elevation of the altimeter setting source (ft)								
	200	300	400	500	1000	2000	3000	4000	5000
0	20	20	30	30	60	120	170	230	280
- 10	20	30	40	50	100	200	290	390	490
- 20	30	50	60	70	140	280	420	570	710
- 30	40	60	80	100	190	380	570	760	950
- 40	50	80	100	120	240	480	720	970	1210
- 50	60	90	120	150	300	590	890	1190	1500

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5.3. AIRFIELD BRIEFINGS

5.3.A. INTRODUCTION

The airfield briefings are arranged in priority of categorization order (i.e. Category C, B then A).

Information contained in the briefings neither should override good airmanship and common sense nor override the required applicable State Regulations.

The airfield briefings are written considering the following points:


- The briefing should be concise. It should not duplicate information contained in the Jeppesen text but will draw attention to the Jeppesen where unusual procedures or conditions prevail.
- The briefing should provide basic data and background information useful to the first time visitor, e.g. basic airport and runway data in order to give the reader an indication of the facilities available.
- All information contained in briefing should be accessed from other sources such as the aerodrome charts before publishing.
- The briefing should highlight particular hazards or difficulties associated with operating at the aerodrome;
- The briefing should indicate restrictions, if any, imposed on operations at the aerodrome. In some cases **FGA** could choose to apply more limiting restrictions than would otherwise be required by the airport or national authority. Operating procedures. These restrictions would be detailed in the briefing and must be applied when operating at the aerodrome concerned.

These briefings are only tools for cockpit crew members in order to help them to prepare their flights. Neither the information delivered by these briefing would be considered as official documents. Therefore, critical data such as declared runway distances and available instrument approaches must be checked from the performance data and approach charts and Jeppesen data.

Warning: It is imperative that briefings be read in conjunction with current Jeppesen documentation and that where any conflicts exist, Jeppesen takes priority. Where no airfield briefing exists, all necessary information for successful operations can be obtained from the Jeppesen documentation.

Note: The pilots are encouraged to provide their operational experience to the Chief Pilot; this will help to keep the briefings updated with the latest available information.

Common information, as for example priority for alternate airports, fuels suppliers, maintenance suppliers and ground or commercial assistance, are regrouped on specific paragraphs of this OM Part C manual.
Refer to these paragraphs for further information.


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5.3 AIRFIELD BRIEFINGS (CONTINUED)

5.3.B. BRIEFING LAYOUT


Briefings follow a standard layout. Generally, the briefings contain following sections:

- 1) **Name of Airport:** This section will provide name of the airport. However, if more than one airport exists in a location then the name of the airport is mentioned next to it
- 2) **Airfield Data:** This section will provide the following airfield data information:
 - Airfield category;
 - Runway data;
 - Instrument Approach Navigation aids available at the airport;
 - Elevation;
 - Local time difference from UTC for winter and summer
- 2) **General Warning, Caution and Note:** This section will provide the general warnings, cautions and notes related to the airfield
- 3) **Terrain:** This section details the airport location and the description of the surrounding terrain
- 4) **Air Traffic Control:** This section will provide details of the Air Traffic services provided
- 5) **Weather:** This section will provide an overview of typical weather patterns throughout the year with particular focus on items of interest such as Fog, Thunderstorms, Snow and strong wind
- 6) **Arrival Procedures:** This section will provide supplementary arrival information on procedures or any specific information that can enhance crew briefing not stated in Jeppesen charts
- 7) **Ground Maneuvering:** This section will provide information on taxiing, parking and gate services. Other ground based facilities may also be described such as unusual runway layout or characteristics.
- 8) **Departure Procedures:** This section will provide supplementary information on departure procedures or any specific information that can enhance crew briefing not stated in Jeppesen chart.

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5.3 AIRFIELD BRIEFINGS (CONTINUED)

- 10) **Additional Information:** This section will highlight additional information relevant to the airport, example:
- Low Visibility Procedures (LVP);
 - De-icing procedures;
 - Any information that does not logically fit into the other main sections above;
 - Non-operational information such as customs/immigration procedures, Security, etc.
- 11) **Destination Alternate:** This section will provide list of alternate airports for each destination.

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5.4. ABU DHABI (OMAA) - UNITED ARAB EMIRATES

Name of Airport : Abu Dhabi International

5.4.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	13R/31L	4100	MAX	
	ILS / ILS	13L/31R	4100	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
NIL			NIL		NIL

5.4.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Birds in vicinity of airport.*

Note : *The term “Fuel emergency” has no status in ATC phraseology. Radio call prefixed with “MAYDAY” for distress or “PAN” for urgency will ensure priority handling.*

5.4.C. TERRAIN


The airport is located close to the coast 16 NM East of the city with an elevation of 88 feet. Terrain is not a significant factor although there are several man made obstruction up to 800 feet within 10 NM.

5.4.D. AIR TRAFFIC CONTROL

Air traffic control is very good.

Delay messages transmitted to the crew by ATC should be interpreted as follows : “No Delay expected” means :

- Do not anticipate being required to remain in a holding pattern longer than 20 minutes before commencing an approach. When delay greater than 20 minutes:
- The controller will pass Estimate Approach Time (EAT).

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5.4.E. WEATHER

Abu Dhabi is very humid, especially when the prevailing winds are from the North.

May to September: Humidity is a little higher and temperatures are very hot. Occasional dust storms are most likely during April and May. Thunderstorms, although not very frequent, may be severe.

October to April: Warm and sunny with occasional rainfall.

Early morning fog is a possibility at any time of the year but is most persistent in the period September to February.

5.4.F. ARRIVAL PROCEDURES:

Caution: *Abu Dhabi Bateen, 10 NM to the West, and Al Dhafra, a military airfield 12 NM to the South Southwest, have similar runway alignments to Abu Dhabi International.*

The UAE enforces an approach ban policy which states that aircraft may not descend below 1000ft above aerodrome if relevant runway visual range is at the time less than the specified landing minima. When visibility is close to, or below, the prescribed minima, ATC shall advise current IRVR reading to aircraft when they are approximate 1000ft on final approach.

5.4.G. GROUND MANEUVERING:

Taxiways F3, F4 & F5 must not be used for wide - bodied aircraft.


RVR 350m or less - Follow me vehicle mandatory for taxi routes guidance unless otherwise advised.

5.4.H. DEPARTURE PROCEDURES:


NIL

5.4.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OMAL	9	ILS / VOR	01/19	4000	MAX
Al Ain					
OMDB	10	ILS / ILS	12L/30R	3600	MAX
Dubai		ILS / ILS	12R/30L	3880	MAX
OMSJ	9	VOR / ILS	12/30	3760	MAX
Sharjah					
OTBD	9	ILS / ILS	16/34	3772	MAX
Doha					

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5.5. AHMEDABAD (VAAH) - INDIA

Name of Airport: Ahmadabad International Airport

5.5.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	VOR/ILS	05/23	3505	MAX

5.5.B. GENERAL WARNING, CAUTION AND NOTES

Warning: TWY L2 – Restricted to Aircraft with wingspan up to 98'/30m.

5.5.C. TERRAIN

The airport is located 8km northeast of the city on flat terrain. Man-made obstacles located to north and west of airport.

5.5.D. AIR TRAFFIC CONTROL

Ahmedabad lies within Class D airspace. Reports indicate ATC standard are average. Traffic avoidance advisory is not available.

5.5.E. WEATHER

Ahmedabad experiences three main seasons: Summer, Winter and

Monsoon. Summer - **March to June**

Climate is dry and hot with average temperature of +36°C.

Winter - **November to February**

Cold northerly winds is often experienced in January, average temperatures range between +15 to +30°C. Climate is dry. Monsoon - **June to Mid September**

The Southwest Monsoon brings cloudy weather with humid conditions.

Precipitation occurs mostly in July and August.

5.5.F. ARRIVAL PROCEDURES

No STARs published. Radar vectoring for ILS or VOR approach can be expected.

5.5.G. GROUND MANEUVERING

- Taxi-Lane L1 - Use low power during maneuvering.
- Taxi-Lane L2 - Not authorized - Max wingspan 30m.


5.5.H. DEPARTURE PROCEDURES

- Due short taxi time to RWY 05, safety demo should be commenced upon door closure.
- No SIDs published.

5.5.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
VIDP	9	VOR / ILS	09/27	2661	MAX
Delhi		ILS / ILS	10/28	3810	MAX
		ILS / ILS	11/29	2820	MAX
VIJP	7	VOR / ILS	09/27	2797	MAX
Jaipur					
OPKC	9	NON / ILS	07L/25R	3200	MAX
Karachi		NON / ILS	07R/25L	3400	MAX
VABB	9	ILS / ILS	09/27	2963	MAX
Mumbai		ILS / VOR	14/32	2517	MAX
VANP	8	VOR / ILS	14/32	3200	MAX
Nagpur*					

* Restricted Opening Hours.

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5.6. AKTAU (UATE) - KAZAKHSTAN

Name of Airport : Aktau Airport

5.6.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
6	ILS / ILS	12L/30R	2652	MAX
	VOR / VOR	30R/12L	2652	MAX

5.6.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: Birds in vicinity of airport.

5.6.C. TERRAIN

TBN

5.6.D. AIR TRAFFIC CONTROL

Jeppesen “ Radar Minimum Altitude Charts 10-1R/1R1” and “Area terminal Chart” is included in the Destination trip kit.

5.6.E. WEATHER

TBN

5.6.F. ADDITIONAL INFORMATION

a) Arrival Procedures:

TBN

b) Departure Procedures:

TBN

5.6.G. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
URML		ILS/ILS	14/32	7932	MAX
Makhachala		ILS/ILS	32/14	7628	MAX
URWA		ILS/ILS	27/09	9588	MAX
Astarakhan		ILS/ILS	09/27	9588	MAX
UATG		ILS/VOR	14/32	8810	MAX
Atyrau		VOR/ILS	32/14	8871	MAX
UBBB		VOR/ILS	18/36	9405	MAX
Baku		ILS/VOR	36/18	9084	MAX

5.7. ALMATY

5.7.A. AIRPORT DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	05L/23R	3400	MAX
	ILS / ILS	03R/21L	3750	MAX
D - ATIS			PDC / DCL	Noise Abatement Procedure
NIL			NIL	NIL
Ground Handling			131.425 (Note1)	Havas Ops

5.7.B. WARNINGS, CAUTIONS AND NOTES

Caution: Altitudes and Flight Levels are in meters. Refer to Meters to Feet conversion table on En-route Charts or chapter 5.2.E. iii) in this manual.

Caution: Use of QFE (height above field elevation) procedure is not allowed (refer to SOPs).

Caution: High terrain south of the Airport. Exercise caution when manoeuvring, be aware of MSA.


Caution: Visibility on the approach may be less than reported due to smoke from bonfires.

Caution: Birds in vicinity of the airport.

Caution: FOD is possible due to miscellaneous debris around runway and taxiways. Taxiways are poorly marked. Wild dogs reported around the runway.

Caution: In the event of Depressurization, Escape Routes are in effect for certain route sectors to destination, See Chapter 4.

Note: Navigation Database coverage may not include some of these areas. Navigation using pilot defined waypoints and runways may be required.

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Note: Aircraft shall make turns on runway junctions with taxiways and on turning Pads.

5.7.C. TERRAIN

The airfield is situated in the Northeast outskirts of the town Almay. Immediately to the South of the town lie the Northern slopes of a range of mountains, which run WSW-ENE. Notable elevations on the mountain range are:


- Southeast the 6000 feet ASL contour runs 9 NM from the airfield.
- South 20 NM spot elevation of nearly 13,400 feet ASL.
- Southeast 23 NM spot elevations of nearly 16,300 feet ASL.

5.7.D. AIR TRAFFIC CONTROL:

- 1) The standard of ATC is satisfactory. Use standard and simple phraseology.
- 2) All VHF coverage.
- 3) If poor weather conditions are forecast, consider carrying substantial extra fuel for holding and/ or diversion. MOSCOW AIRPORT AUTHORITY PROHIBITS THE USE OF MOSCOW AS AN ALTERNATE FOR ALMATY (1998).
- 4) Boundary military airfield is 7 NM to the W and is easily mistaken for Almaty airport.
- 5) Almaty may not give RVR values during daylight hours; be prepared to factor reported Met visibility (Jepp). In low visibility ATC will ask the crew to state minimums (DH/RVR/VIS) and chosen alternate.
- 6) Although Kazakhstan normally uses QFE, QNH procedures will be provided on request to aircraft to permit EGPWS to remain active.
- 7) Check TLR Take-off data for Emergency Turn procedures for EOSID.

5.7.E. WEATHER:

Almaty is surrounded by mountains. Generally, the climate in Almaty is mild. Frontal systems reaching this Far East are generally weak. Surface winds are generally light all year around, typically less than 10 kts; this aggravates frequent low visibility problems. Night winds are mostly from the SE quarter but during the day winds are variable. Coincident with these light winds and low winter temperatures is radiation fog.

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Precipitation falling as snow Nov-Apr Summer weather is generally fine but with the chance of thunderstorms.

A crew report (1998) that during mid May a warm CAVOK day was followed the next day by temperatures just above freezing and 1000 m visibility in snow.

5.7.F. ARRIVAL PROCEDURES:

Expect STAR arrival from the west.

Landing on RWY 23 L / R is the most expeditious as there are no taxiways and the apron is at the end of RWY 23 L/R.

It is advisable to accept descent clearance when given, to avoid being too high when closer.

Expect a stepped descent profile. Approach patterns are radar vectored.

Clearance to intercept the final approach will probably not be given, the aircraft being expected to make the last turn onto final without specific instructions. Clearance to land may be given after crew have reported undercarriage down.

5.7.G. GROUND MANOUVERS:


The Terminal building was recently completely renovated with modern facilities. Four aero-bridges are available.

During prolonged periods of snow it is not unusual for the airfield to be closed for numerous hours before snow clearance is completed.

5.7.H. DEPARTURE PROCEDURES:

De-icing/Anti-icing facilities are available. Co-ordinate with ground personnel as required.

Call for ATC clearance well before start up to avoid delay. Expect initial cleared flight level of 2100m; it is important to promptly change altimeter setting to Standard to avoid exceeding cleared level.

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5.7.I. ADDITIONAL INFORMATION:

5.7.I. i) *Ground De-icing:*

Fluid Types I, II and IV available. De-Icing/Anti-Icing may be at the stand or after pushback.

Co-ordinate with lead ground mechanic before hand.

Pilots must be familiar with OM A sub part E “All Weather Operations” and applicable SOP.

5.7.I. ii) *Altimeter Setting Procedures:*

(1) Altitudes:

- Altitudes and Flight Levels in meters (METRIC CRUISING LEVELS table - See Chapter 5.2.E. iii))
- Below Transition altitude reference is normally QFE. But QNH is available on request. It may be included on the ATIS.
- Winter Temperatures may require Cold Temperature Corrections to Altitudes

(2) Altimeter Setting Procedures:

- Above Transition Level :

When above the transition level (flying altitudes referenced to STD) the procedures are straight forward.

Simply convert the cleared FL meters to FL feet using the tables

Or

the metric Pb on the FCU to find the equivalent altitude in feet, and set it.

- Below Transition Level :

Setting QFE (height above runway) on the FCU is not permitted by FCOM

Most stations will be able to give you QNH. Then you can set cleared altitude according to the Meters – Feet conversion chart on the Jeppesen En-route Charts or the Tables 5.2.E. iii)

If given a QFE meters clearance and QNH is available: Set QNH. The Jeppesen Approach Chart will have an “Alt/Height Conversion” box in the plan view where you will find the QNH equivalent to the QFE heights.


If given a QFE meters clearance and QNH is not available: The pilot will have to convert QFE to QNH manually and then convert meters to feet:

- On the Jeppesen approach plate, below the Missed Approach box, there will be the Runway elevation (Rwy Elev) in pressure equivalent: mb or hPa.
- Add this value to QFE to obtain QNH

To convert the QFE meters altitude to feet, uses the Meters – Feet conversion tables, and then add to this the field elevation to obtain QNH altitude Feet and

5.7.J. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
UAFM	9	ILS/VOR	08/26	12698	MAX
Bishkek		ILS/ILS	26/08	12577	MAX
UADD	TBD	ILS	13/31	8603	MAX
Taraz		ILS	31/13	8793	MAX
UAIL	8	ILS/VOR	06/24	TBD	MAX
Shymkent		ILS/VOR	10/28	10053	MAX
UAKK	8	ILS/VOR	05/23	10664	MAX
Karaganda		ILS/VOR	23/05	9736	MAX

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5.8. AMSTERDAM (EHAM)

NETHERLANDS Name of Airport : Schiphol International

5.8.A. 5.8.2 AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
10	CIR / ILS	18L/36R	2825	MAX	
	ILS / CIR	18R/36L	3530	MAX	
	ILS / ILS	18C/36C	2850	MAX	
	VOR / ILS	09/27	3363	MAX	
	ILS / VOR	06/24	3250	MAX	
D - ATIS			PDC / DCL		Noise Abatement Procedure
Yes			DCL		Refer to Jeppesen airport brief- ing pages.

5.8.B. GENERAL WARNING, CAUTION AND NOTES

5.8.C. TERRAIN

Aerodrome is located 5NM SW of the city,
elevation : 11 feet **below** sea-level.
There is no significant terrain in vicinity of aerodrome.

5.8.D. AIR TRAFFIC CONTROL

NIL.

5.8.E. WEATHER

Fog

- Sea fog can be expected during winter, reducing visibility down to CAT II minimums.
Radiation fog associated with a strong anticyclone during Winter/Springtime may affect Amsterdam and aerodromes in neighboring countries.

Summer

- TS are usually of short duration accompanied by heavy showers.
- Summer temperatures are generally in the low to mid teens.

Winds

- Prevailing winds are westerly. As a result during winter periods, strong x-winds can be expected.

5.8.F. ARRIVAL PROCEDURES

RWY Usage

18L / 36L	09 / 18C / 24 / 27 / 36R
Not available for Arrivals	Not available 2200-0530 (2100-0430)

To avoid frequency congestion initial contact(s) as follows:

Transfer from AMS Radar to Schiphol	Transfer from Schiphol Approach to Schiphol Arrival	Transfer from Schiphol Approach/Arrival to Schiphol TWR
Schiphol Approach + Callsign	Schiphol Arrival + Callsign	Schiphol TWR, Callsign and RWY

Good Weather Conditions:

- ATC may use two converging RWYs for simultaneous approach.

5.8.G. GROUND MANEUVERING

- Stands and stand taxi lanes: A2A, A2B, A2C, A2D, A3, A4W, A4E, A5, A6, A7, A8, A9S, A9N, A19N, A19S - Not authorized.
- Cargo flights are parked at Apron R.

5.8.H. DEPARTURE PROCEDURES

Start-Up and Pushback

- After permission for start-up, Schiphol Start-up shall give instructions to contact Schiphol Ground for push-back and taxi instructions. The frequency depends on the parking position of the aircraft.

CTOT (Calculated Take-off Time)

- ATC clearance to be requested to Schiphol Delivery MAX 20 minutes prior to EOBT or 35 minutes prior to CTOT. If runway 36L is used, clearance shall be requested MAX 30 minutes prior to EOBT or 45 minutes prior to CTOT.

Note: CTOT tolerance is -5 / +10 minutes.

RWY 36L


- Generally used for departures to the west, ie North American destinations. Note the distance required to reach the RWY36L threshold, which must be taken into consideration when a CTOT issued.

RWY Usage

09 / 18L / 27
Not available 2200-0530 (2100-0430)

5.8.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EBBR	9	VOR/ILS	07R/25L	3089	MAX
Brussels		ILS/ILS	02/20	2767	MAX
		VOR/ILS	07L/25R	3338	MAX
EDDF	10	ILS/ILS	07L/25R	4000	MAX
Frankfurt - Main		ILS/ILS	07R/25L	4000	MAX
EDDK	10	NON/ILS	06/24	2459	MAX/79
Cologne - Bonn		ILS/ILS	14L/32R	3815	MAX
EDDL	9	ILS/ILS	05R/23L	2700	MAX
Dusseldorf		ILS/ILS	05L/23R	2400	MAX

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5.9. ANKARA (LTAC) - TURKEY

Name of Airport : Esenboga International

5.9.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	03L/21R	3400	MAX	
	ILS / ILS	03R/21L	3750	MAX	
D - ATIS			PDC / DCL		Noise Abatement Procedure
NIL			NIL		NIL
Ground Handling			131.425 (Note1)		Havas Ops

Note1 : VHF Range 100nm. Due known interference contact may not be possible.

5.9.B. GENERAL WARNING, CAUTIONS AND NOTES

Warning: High Terrain located in all quadrants.

5.9.C. TERRAIN

Esenboga Airport is 28km Northeast of Ankara city, elevation 3,125ft MSL. The airport is located on a plain with high terrain situated in all quadrants, highest MSA 9000ft. Refer to Jeppesen charts for terrain depiction.

5.9.D. AIR TRAFFIC CONTROL

Radar services provided. Communication with TWR, use standard phraseology. The airport is equipped with parallel RWYs, but simultaneous RWY operation(s) not authorized. Akinici Air Base, located 21nm to the East has similar orientated rwy (single RWY03/21).

Refueling with pax onboard, fire tender must be in attendance.

5.9.E. WEATHER

Summer: Afternoon thunderstorms occur May-Aug, but rarely affect traffic. Average temperature +22°C, but temps in Low/Mid 30s do occur in mid afternoon.

Winter: Dec-Mar, Snowfalls, Jan shows highest frequency, 11 days. Fog is common throughout winter season, Dec (14 days), Jan (9 days) and Feb (6 days).

The sudden drop to the plain may give rise to turbulence and windshear.

5.9.F. ARRIVAL PROCEDURE

Expect FL180 within 42nm of the airport. Due surrounding high terrain crew should cross check that all descent instruction provides adequate terrain separation.

RWY03L/R most commonly used RWYs. RWY03L - Threshold displaced by 350m. Power- lines cross the extended centerline on RWY03L/R approach.

5.9.G. GROUND MANEUVERING


- Parking stands used for International flights: 113 to 120.
- Security Risks - Aircrafts are parked on Apron 3.

5.9.H. DEPARTURE PROCEDURE

De-icing is conducted after push-back. Expect RWY03s for departure.

5.9.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
LTAH	TBD	VOR/DME	13L/31R	N/A	MAX
Afyon		VOR/NDB	13R/31L	N/A	MAX
LTFJ	TBD	ILS/ILS	06/24	8542	MAX
SABIHA		ILS/ILS	06/24	8932	MAX

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5.10. ATHENS (LGAV)

5.10.A. AIRPORT DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	03L/21R		MAX	
	ILS / ILS	03R/21L		MAX	
			PDC / DCL		Noise Abatement Procedure
NIL			NIL		NIL
Ground Handling			131.425 (Note1)		Havas Ops

5.10.B. WARNINGS, CAUTIONS AND NOTES:

Caution: Birds in vicinity of the airport.

Note: Runway usage procedures apply, refer to Jeppesen chart 10-1P.

5.10.C. TERRAIN:

The airport is located in the middle of Mesogeia plain, some 20 kms from the centre of Athens city.

Terrain is significant and high, rising towards North, North-East of the airfield. In the Northern quadrant MSA varies up to 7000 feet.

5.10.D. AIR TRAFFIC CONTROL:


The standard of ATC is satisfactory. Use standard and simple phraseology.

5.10.E. GROUND FACILITIES:

Standard

5.10.F. WEATHER:

Summer: Fine with occasional thunderstorms. Visibility is often reduced by haze.

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Winter: Mainly fair with occasional frontal passage.
Severe turbulence on approach particularly with winds between Northeast and Northwest.

5.10.G. ARRIVAL PROCEDURES:

RWYs 03L / 03R are primarily used for all the operations. Full STAR is used with transition to the final approach segment via radar vectors. Expect to be parked at the North (old) or South terminal.

Caution: Due to high ground and turbulent winds, expect windshear on final approach for RWYs 03L/R.

5.10.H. DEPARTURE PROCEDURES:


Strict slot times shall be adhered and followed. Flight crew shall anticipate and obtain all required clearances to avoid unforeseen delays and missing of the departure time.

5.10.I. ADDITIONAL INFORMATION:

None.

5.10.J. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
LGRX	7	VOR	18L/36R	10866	MAX
Araxos		VOR	18R/36L	10342	MAX
LGLM	6	VOR/DME	04R/22L	N/A	MAX
Limnos		VOR/DME	N/A	N/A	MAX
LGSA	8	VOR	11/29	10656	MAX
Chania		VOR	29/11	10656	MAX
LTBJ	9	ILS/ILS	16L/34R	9536	MAX
IZMIR		ILS/ILS	16R/34L	9719	MAX

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5.11. BAHRAIN (OBBI)

Name of Airport : Bahrain International

5.11.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
10	ILS / ILS	12L/30R	3657	MAX
	NONE	12R/30L	2222	MAX

5.11.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Birds in vicinity of airport.*

Note: *Do not use “taxi lights” to get the attention of ground staff.*

5.11.C. TERRAIN

No significant terrain.

5.11.D. AIR TRAFFIC CONTROL

- Air traffic control is very good.
- Radar communication failure - see special procedure, Jeppesen Text Manual, Emergency, “Bahrain”.


5.11.E. WEATHER

Early morning fog and low stratus a possibility particularly during the winter months. Occasional dust storms. Strong Northerly winds occur throughout the year.

Caution: *Beware of severe low-level wind shear. This occurs frequently during summer, especially overnight. Very strong wind shear can also be encountered in the vicinity of severe thunderstorms over the Gulf region during winter and spring.*

Warning: *Marked temperature inversions occur frequently in the lower and middle levels of the troposphere especially at night during summer. These can significantly affect climb-out performance, and can be associated with wind shear.*

Due to the topography and heat index, turbulence is normally a factor.

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5.11.F. ADDITIONAL INFORMATION

a) Arrival Procedures:


NIL

b) Departure Procedures:

NIL

5.11.G. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	DA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319t
OEDF	9	ILS/ILS	16L/34R	4000	MAX
Dammam		ILS/ILS	16R/34L	4000	MAX
OKBK	9	ILS/ILS	15R/33L	3400	MAX
Kuwait		ILS/ILS	15L/33R	3500	MAX/88
OMAA	9	ILS/ILS	13R/31L	4100	MAX
Abu Dhabi		ILS/ILS	13L/31R	4100	MAX
OMDB	10	ILS/ILS	12L/30R	3600	MAX
Dubai		ILS/ILS	12R/30L	3880	MAX
OTBD	9	ILS/ILS	16/34	3772	MAX
Doha					

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5.12. BARCELONA (LEBL) - SPAIN

Name of Airport: Barcelona International

5.12.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				320 / 1	
8	ILS / ILS	07L/25R	2922	MAX	
	ILS / ILS	07R/25L	2660	MAX	
	ILS / NON	02/20	2540	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
Nil			Nil		See Jeppesen Airport briefing page
Curfew			Operating Hours		Remarks
Nil			H24		Nil

Note 1: Dispensation is required to operate aircraft types due RFF category.

5.12.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: Parallel TWYs have been misidentified for RWYs in the past.

Note: Birds in vicinity of aerodrome.

5.12.C. TERRAIN

Aerodrome is located 5½ NM SW of Barcelona city. High terrain located to the West, North and Northeast. Slopes of Pyrenees Mountains start at 18NM north.

RWY 07L

- Left of centerline, between 12-4NM high ground located.

5.12.D. AIR TRAFFIC CONTROL


Expect local traffic to be controlled in Spanish. There is considerable VFR traffic following the coast.

Speed Restriction under Radar control

- See Jeppesen airport briefing pages for details

Radio Communication Failure Procedure

- STAR: Jeppesen Text manual “Emergency”, Spain”.
- Missed approach: See applicable Approach Chart & “Arrival” section of

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airport briefing page.

- On ground: See Jeppesen briefing pages “General “.
- SID: See appropriate SID chart and Jeppesen Text manual “Emergency”, Spain.

Low Visibility Procedures LVP

- Flight crews should familiarize themselves with these procedures, noting specific taxing instructions. See Jeppesen airport briefing pages.

Minimum RWY occupancy:

- ARR: Vacate via rapid exit TWYs; see Jeppesen airport briefing pages for details.
- DEP: Aircraft must be able to commence take-off after clearance is issued.

5.12.E. WEATHER

Winter and spring: Early morning fog may occur.

Thunderstorms may occur throughout the year, but are usually localized. Strong North winds give severe turbulence and down draughts.

5.12.F. ARRIVAL PROCEDURE

STARs

- Published SLP and FLs must be adhered too unless otherwise instructed.

Delay information on Approach

- If expected holding is time less than 20 minutes, ATC will not provide ETA.

Landing Minima

- ILS CAT I minima is higher than normal for all RWYs.

Preferential Arrival RWY (ATC)

- 0700-2300 LT: RWY25R or 07L
- 2300-0700 LT: RWY02 or 25L

5.12.G. GROUND MANEUVERING

NIL

5.12.H. DEPARTURE PROCEDURE

Start up

- Contact Barcelona Clearance delivery not more than 15 minutes before EOBT or CTOT for ATC clearance. See Jeppesen airport briefing pages for further details. Pushback and Taxing

- Running engine higher than idle is not permitted until pushback is complete. Taxi Routing

- Standard Taxing routing published; see Jeppesen airport briefing pages, "General" Section for details. Preferential Departure RWY (ATC)
- 0700-2300 LT: RWY25L or 07R.
- 2300-0700 LT: RWY07R or 25L.
- RWY25R: Departure is normally from intersection TWY Z or Y.
- RWY07L: Departure is normally from intersection TWY W.


ATS Flight Plan

- Should be delayed to reflect new EOBT when necessary.


5.12.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
LEGE	7	VOR/ILS	02/20	2240	MAX
Girona					
LERS	7	VOR/ILS	07/25	2190	MAX/76.5
Reus <i>(Note1)</i>					
LEVC	7	VOR/ILS	12/30	2915	MAX
Valencia					
LEZG	9	ILS / ILS	12L/30R	3000	MAX
Zaragoza		ILS / ILS	12R/30L	3718	MAX
LEPA	9	ILS/ILS	06L/24R	3200	MAX
Palma De Mallorca		VOR/ILS	06R/24L	2590	MAX
LFBO	8	ILS/ILS	14R/32L	3500	MAX
Toulouse		ILS/ILS	14L/32R	3000	MAX
LEMD	9	NON / ILS	15L/33R	3000	MAX
Madrid - Barajas (H24)		VOR / ILS	15R/33L	3050	MAX
		ILS / NON	18L/36R	3000	MAX
		ILS / NON	18R/36L	3365	MAX

Note 1: LERS Opening hours 0400-2200 (Summer) / 0500-2300 (Winter).

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5.13. BEIRUT (OLBA) - LEBANON

Name of Airport : Rafik Hariri International

5.13.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / CIR	03/21	2805	MAX	
	ILS / CIR	17/35	2400	MAX	
	ILS/NON*	16/34	3215	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
Yes			NIL		NIL

(*) Runway 34 Not Authorized for landing.

5.13.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: *Birds in vicinity of airport.*

Caution: *A highway illuminated by sodium lights runs parallel to RWY 17/35, in the past has been mistaken for the runway.*

Warning: *Possibility of windshear exists on approach to RWY17*

Note: *Crew are reminded to call 131.4 (MEA OPS control centre) to advise ETA and special ground service requirements.*

Note: *RWY34 - Landing NOT Authorized. (Lebanon State regulation)*


Note: *RWY16 - Take-off NOT Authorized. (Lebanon State regulation)*

5.13.C. TERRAIN

The airfield is located on the coast and is surrounded by urban development. To the East, high terrain runs in a North-South direction. MSA 11,000 ft. (Northeast clockwise to Southeast)

5.13.D. AIR TRAFFIC CONTROL

The standard of ATC and English is good. Radio Communication failure- See Jeppesen textual manual, section Emergency, "Lebanon".

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5.13.E. WEATHER

Summer: Fine Weather.

Winter: Some heavy CB activity. Squalls with winds above 25 kts may give rising dusts and, reducing visibility on occasion to less than 100 m.

5.13.F. ARRIVAL PROCEDURES

Preferred RWY for Arrival (ATC & Performance)

- RWY 03
- RWY 16

Displaced Threshold

- RWYs 03, 21 and 35 have displaced thresholds, due to significant obstacles on short finals.

RWY 03

- Displaced landing threshold due obstacles on short finals. Avoid tendency to go below nominal approach angle to displaced threshold.

RWY 16

- Glide Slope anomalies beyond 5nm
- Missed approach - fly accurately due terrain on extended centerline

RWY 17

- ILS minima(s) are higher than normal criteria

RWY 21 & 35

- Landing NOT recommended on these RWYs due terrain and lack of instrument approaches.

Note: *Landing on RWYS 35 and 21 are not recommended.*

5.13.G. GROUND MANEUVERING

- TWY A - Do not mistake for RWY03/21.
- Parking stands 18 to 21: A steep upslope exists as you approach final stopping position.

5.13.H. DEPARTURE PROCEDURES


Preferred RWY for Departure (ATC & Performance)

- RWY 21
- RWY 34


Enroute Planning - Planned FL may-not be available due enroute congestion, please report via Jeppesen trip kit report if planned FL not available.

5.13.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
LCLK	8	VOR/ILS	04/22	2810	MAX
Larnaca					
OJAI	9	ILS/ILS	08L/26R	3660	MAX
Queen Alia		NDB/ILS	08R/26L	3660	MAX
OSDI	9	VOR/ILS	05L/23R	3000	MAX
Damascus		ILS/VOR	05R/23L	3600	MAX

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5.14. BERLIN (EDDT) – GERMANY

Name of Airport: Tegel International

5.14.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
8	ILS / ILS	08L/26R	3023	MAX
	ILS / ILS	08R/26L	2324	MAX
D - ATIS			PDC / DCL	Noise Abatement Procedure
Yes			DCL	See departure section of this brief & Jeppesen text manual, ATC pages for Germany

5.14.B. GENERAL WARNING, CAUTION AND NOTES

Warning: Landing of aircraft with highly infectious diseased passengers on board is prohibited.

Caution: Birds in vicinity of airport.

Caution: Residential area in short final of Runway 26 R/L.

Note: Refer to Jeppesen for night flying restrictions.

5.14.C. TERRAIN


The airport is located 8 km (4 NM) Northwest of city with an elevation of 122 feet. The terrain at the airport is generally flat.

Caution: Beware of man made obstacles in the terminal area and trees upto 100 feet AGL in the close vicinity of the airport. The highest obstacle TV antenna 1329 feet MSL is located approximately 4 NM Southeast of the airfield.

Berlin Tempelhof airfield is located approximately 7.5 NM and Berlin Schoenefeld airfield is located approximately 15.5 NM Southeast of Tegel airfield.

5.14.D. AIR TRAFFIC CONTROL

The standard of ATC and English is good, use standard ATC phraseology.

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5.14.E. WEATHER

The climate is moderate and the average yearly temperature 9.2°C. Most precipitation is during the months of July and August.

June to August: Summer Months. The average daily temperature is around

18°C. **December to February:** Winter months. The average temperature is

around 0.5°C. **November to March:** Possibilities of frost and snow.

5.14.F. ARRIVAL PROCEDURES

Low drag and power approaches are expected to be conformed with. When expected to hold over the main approach aid for more than 20 minutes an ETA will be transmitted. If no clearance has been given for continuation beyond the main aid, maintain the last assigned altitude, join the depicted hold and acknowledge the altitude and wait for further instructions.

Noise Abatement procedures as per the following: Leave the initial approach fix at 210 kts \pm 10 kts, maintain until 12 NM from touchdown. Reduce speed to 160 kts \pm 10 kts using an intermediate flap setting with landing gear up. Intercept glide path at not lower than 3000 feet AAL. Lower landing gear, set flaps for landing and establish final approach speed shortly before or over Outer Marker.

5.14.G. GROUND MANEUVERING

Nil


5.14.H. DEPARTURE PROCEDURES

Noise abatement procedures are as follows, at 1500 feet AGL
:


- Reduce thrust to climb thrust;
- Accelerate while climbing and retract flap/slat on schedule;
- Transition to normal en-route climb speed.

5.14.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	Runway	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EDDB	9	ILS / ILS	07/25	3000	MAX
Berlin - Schoenefeld					
EDDC	8	ILS / ILS	04/22	2508	MAX
Dresden					
EDDP	8	ILS / ILS	08/26	3600	MAX
Leipzig					
EDDV	8	DME / ILS	09L/27R	3200	MAX
Hannover		ILS / ILS	09R/27L	2304	MAX

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5.15. CAIRO (HECA) - EGYPT

Name of Airport : Cairo International

5.15.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	05L/23R	3301	MAX	
	ILS / ILS	05C23C	3999	MAX	
	NONE	16/34	3178	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
			N/A		

5.15.B. GENERAL WARNING, CAUTION AND NOTES

Warning: See ground maneuvering for parking procedure.

Note: Strong Winds Can obscure visibility with blowing sand/dust.

Note: In the event of closure of Runway 05R/23L, Runway 05L may be used for

Landing provided that :

- 1) Traffic established on final approach at least 13 NM from Cairo VOR/DME at feasible minimum speed, and
- 2) Strict adherence to LLZ centerline.
- 3) Visual approach and shortcut are not permitted.


5.15.C. TERRAIN

The airport is located 13 NM to the Northeast of the city which lies besides the Nile with an elevation of 382 feet. There is high ground to the South.

Due to the uneven terrain of the airfield, be aware that there can be up to approximately 200 feet difference in runway threshold elevations. As a result same taxiway have significant slopes.

5.15.D. AIR TRAFFIC CONTROL

The standard of ATC and English is variable. Use standard phraseology.

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5.15.E. WEATHER

Weather is normally good.

April to June: Hot southerly wind known as the Khamsin may blow causing rising dust and poor visibility.

Note: *During Summer, final approaches are generally bumpy due to hot air adiabatic effect.*

December to February: Usually in January, fog can occur very suddenly which will normally dissipate by about 1000 local time.

Winter frontal system can reach Cairo from the Southern Mediterranean and although there is usually very little rain, visibility can be reduced if the wind exceeds 15 knots.

5.15.F. ARRIVAL PROCEDURES

Note: *Runway 16/34 is used during day time and in VMC only as an alternative for Runways 05L/23R and 05R/23L.*

Caution: *A well lit dual carriageway and boundary fence lighting may make night identification of Runways 05L & 05R difficult.*

Note: *If landing 23L and exiting on taxiway Papa, do not mistake taxiway whiskey as an extension of Papa.*

The airfield site slopes up towards the South with a marked difference between threshold elevations. Large power settings are required if taxiing uphill, increasing the risk of engine ingestion of the considerable amounts of debris, sand and stones lying on and around taxiways. Increase the separation between taxiing aircraft at all times. Taxiing downhill requires constant braking which may cause Brake Overheat.

5.15.G. GROUND MANEUVERING

- Wingtip clearance is minimal on wide-body aircraft in parking areas.
- Left engine nacelle comes very close when parking at fixed air-bridges, gates A8-A16. Approach parking stand at slow speed, using docking guidance system and stop bar to position aircraft. Ensure correct aircraft designator is shown on guidance system. If in doubt, request Marshaller assistance.


5.15.H. DEPARTURE PROCEDURES

Runway 23R may be used for take-off provided that traffic execute a left turn maximum distance 5NM from Cairo VOR/DME then to be directed to its assigned airway.

Expect to climb straight ahead on runway heading to 3500ft, thereafter to follow tower instructions.

5.15.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
HEBA	8	NON/ILS	14/32	3400	MAX
Alexandria Borg El Arab					
HEGN	9	VOR/ILS	16/34	3700	MAX
Hurghada					
HELX	9	VOR/ILS	02/20	3000	MAX
Luxor					
HESH	9	ILS/CIR	04L/22R	3081	MAX
Sharm El Sheikh		VOR/NON	04R/22L	3081	MAX

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5.16. COPENHAGEN (EKCH) - DENMARK

Name of Airport : Kastrup International

5.16.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	04L/22R	3000	MAX	
	ILS / ILS	04R/22L	3300	MAX	
	ILS / ILS	12/30	2365	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
Yes			DCL See Jeppesen Airport Briefing Pages		See Jeppesen Airport Briefing Pages.

5.16.B. GENERAL WARNING, CAUTION AND NOTES

Nil

5.16.C. TERRAIN

No significant terrain in vicinity of aerodrome.


5.16.D. AIR TRAFFIC CONTROL

The standard of ATC is average. Use standard phraseology.

• ATC Preferential RWYs (See Jeppesen airport briefing pages for more details.)	
Take-off (0700-2300)	RWY04R or 22R
Landing (0700-2300)	RWY04L (CAT II) or 22L (CAT III)
Take-off & Landing (2300-0600)	RWY22L

RWY12/30 will not be used until x-winds exceed 15kts or co-efficient is below 0.30 for preferential RWYs.

Radio Communication Failure - See Jeppesen text manual, “Emergency” section, Denmark for details.

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5.16.E. WEATHER

Winter: Snowfall expected between Dec-Mar, but significant accumulations are not common. Fog is most frequent during months of October through March. Fog is of the advection type, moving in from Baltic and can be persistent throughout the day.

Summer: Thunderstorms not common, but most occurrences in August.

Surface Winds: Prevailing winds are Southwesterly, but months Feb-May winds from North and East are common. Due airport location near to water, sea breezes are common in spring and Autumn.

5.16.F. ARRIVAL PROCEDURES

Final Approach, radar separation of 2.5NM may be used. Dependent parallel approaches may be used for RWY04L/04R and 22L/22R between hours of 0500-2200 (0400-2100).

CAT II/III Operations: See Jeppesen Airport briefing pages

5.16.G. GROUND MANEUVERING

Preferred Taxi routing (10-9 series charts) and Numerous notes about TWY restrictions are detailed in Jeppesen airport briefing pages. APU usage (Jeppesen airport briefing pages).

5.16.H. DEPARTURE PROCEDURES

- Start-up procedures: See Jeppesen Airport briefing pages.
- Deicing procedures: See Jeppesen Airport briefing pages.

5.16.I. DESTINATION ALTERNATES


Most airports in the region experience fog throughout the autumn and winter periods. Destination alternates listed in order of preference.

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EDDH	9	ILS / ILS	05/23	3094	MAX
Hamburg		ILS / ILS	15/33	3220	MAX
EDDT	8	ILS / ILS	08L/26R	3023	MAX
Berlin - Tegel		ILS / ILS	08R/26L	2208	MAX
ESMS	7	ILS / ILS	17/35	2800	MAX
Malmo					
EKBI	7				
Billund (Note1)		ILS / ILS	09/27	2950	MAX
ESGG	8	ILS / ILS	03/21	3299	MAX
Gotenborg					
EKAH	7	ILS / ILS	10R/28L	2702	MAX
Aarhus (Note2)					
EKYT	7	ILS / ILS	08L/26R	2654	MAX
Aalborg (Note3)					

Note 1: EKBI: AD Operating Hrs . 0500-2100 (0400-2000)

Note 2: EKAH: AD Operating Hrs 0500-2100 (0400-2000). RFF hrs 0530-2030 (0430-1930). RWY10L/28R - Not Authorized.

Note 3: EKYT: AD Operating Hrs 0500-2230 (0400-2130). Fuel hrs - 0500-2200 (0400-2100) RWY 08R/26L - Not Authorized

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5.17. DAMASCUS (OSDI) - SYRIA

Name of Airport : Damascus International

5.17.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	VOR / ILS	05L/23R	3000	MAX	
	ILS / VOR	05R/23L	3600	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
NIL			NIL		NIL

5.17.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: Exercise extreme caution when operating into and out of Damascus. Procedural details and/or availability of facilities (Radar) and NAV AIDS are subject to change with little or no prior notification. Many airline have reports of aircraft being cleared for approaches that have no serviceable Nav Aids.

Note: Due to poor ATC standards, it is strongly recommended to carry-out a full procedural approach.

Note: ATIS 128.225 Available.


5.17.C. TERRAIN

The airfield is located 12 NM Southeast of the city and in proximity to a hostile border with an elevation of 2020 feet. There is high terrain within 10 NM from the South through to the Northwest.

5.17.D. AIR TRAFFIC CONTROL

The standard of ATC and English encountered can be poor. Use standard and simple phraseology to reduce the possibility of confusion.

The airspace is relatively small, and has no radar cover. For this reason control is fully procedural, pilots should be vigilant and maintain a good situational awareness of all traffic.

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5.17.E. WEATHER

Summer: Sunny and hot with little change from day to day, which lasts from April - September or early October. **The rest of the year** is more changeable with cloudy and rainy weather with odd cold spells bringing frost or even heavy snow. These spells are infrequent particularly along the Mediterranean coast but can be quite severe in the mountains and inland. The **main rainy season** is between November - February although even in mid-winter there can be periods of warm, dry weather. There is a gradual increase and decrease in temperature during the spring and autumn seasons.

5.17.F. ARRIVAL PROCEDURES

It is normal to be held high until very close to the airfield and then expected to make a visual approach.

It has been stressed often, if in doubt go to the VOR and descend in the hold. From there it is easy to continue visually or procedurally.

Runway 23R normally used for Landing.

Caution: *When Runway 05L/R in use especially with crosswind, expect windshear.*

Caution: *The relative position of MARJ RUHAYYIL, the military field. The VOR is displaced from the threshold by several miles, in fact it lies between the two airfields. In addition, the runways in Damascus are well separated and staggered, therefore extreme care should be taken to correctly identify the runway given.*


5.17.G. DEPARTURE PROCEDURES

Runway 23L normally used for take-off.


Enroute traffic congestion may result in less than "OPT Flight Level". Report via Jeppesen Trip Kit report form if planned Flight level is not obtained.

5.17.H. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
LCLK	8	VOR/ILS	04/22	2810	MAX
Larnaca					
OJAI	9	ILS/ILS	08L/26R	3660	MAX
Queen Alia		NDB/ILS	08R/26L	3660	MAX
OJAM	8	CIR/ILS	06/24	3275	MAX
Marka					
OLBA	9	ILS/CIR	03/21	2805	MAX
Beirut		ILS/CIR	17/35	2400	MAX
		ILS	16	3215	MAX

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5.18. DAMMAM (OEDF) - SAUDI ARABIA

Name of Airport : King Fahad International

5.18.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	16L/34R	4000	MAX	
	ILS / ILS	16R/34L	4000	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
Yes			NIL		NIL

5.18.B. GENERAL WARNING, CAUTION AND NOTES

NIL

5.18.C. TERRAIN

The airport is located 14 NM inland from the coast, on a large flat area without obstruction. The airport has an elevation of 72 feet.

5.18.D. AIR TRAFFIC CONTROL

Air Traffic control is very good.


5.18.E. WEATHER

The weather is the same weather as observed at many airfields in the gulf region.

Haze is typical, reducing the visibility to around 6000 m. This may reduce to a 1000 m in severe dust storms.

Rain is more likely in the winter months and may be very heavy reducing visibility. Prevailing wind Northerly which can be very strong at times. Early morning fog and low stratus during the winter months. Frontal weather occasionally affects Dammam in winter.

Dust storms occur throughout the year but are most troublesome during mid-summer afternoons

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5.18.F. ADDITIONAL INFORMATION

a) Arrival Procedures:


NIL

b) Departure Procedures:

Take-off in northern direction, expect runway 34L. For planning purpose, the Operational Flight Plan (OFP) will show a specific SID, but expect ATC to provide radar vectors for departure (RADAR1A) to the "BAH" VOR.

5.18.G. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OBBI	10	ILS/ILS	12L/30R	3657	MAX
Bahrain		NONE	12R/30L	2222	MAX
OEJN	9	ILS/ILS	16C/34C	3303	MAX
Jeddah		ILS/ILS	16L/34R	3690	MAX
		ILS/ILS	16R/34L	3803	MAX
OERK	9	ILS/ILS	15L/33R	4205	MAX
Riyadh - King Khalid		ILS/ILS	15R/33L	4205	MAX
OKBK	9	ILS/ILS	15R/33L	3400	MAX
Kuwait		ILS/ILS	15L/33R	3500	MAX/88
OTBD	9	ILS/ILS	16/34	3772	MAX
Doha					

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5.19. DELHI (VIDP) – INDIA

Name of Airport : Indira Gandhi International

5.19.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for	
				Aircraft	
				319	
9	VOR / ILS	09/27	2661	MAX	
	ILS / ILS	10/28	3810	MAX	
	ILS / ILS	11/29	2820	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
Yes			Nil		Nil

5.19.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Birds in vicinity of airport.*

Caution: *Light aircrafts and gliders activity in the area.*

5.19.C. TERRAIN:

The airfield is located on a flat plain 8 NM Southwest of the city with an elevation of 744 feet. 6 NM to the East is another airfield associated with light aircraft and glider activity. Located just to the North of this airfield is a prohibited area.

5.19.D. AIR TRAFFIC CONTROL:


Speed control procedures, Low Visibility Procedures and Radio Communication failure procedures, see Jeppesen airport briefing pages

TWY Routing

- Standard TWY routing published, see Jeppesen airport briefing pages.

5.19.E. WEATHER:

December to February: North East monsoon. Light winds and cool weather with

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minimum overnight temperatures around 7°C. Occasional frontal depressions. Frequent morning fog usually clearing by about 1000 Local Time.

March to Mid June: Hot Season. Temperature slowly building up until the start of the Southwest monsoon with storms towards the end of the period.

Mid June to September: Southwest monsoon. Some continuous rain with thunderstorms but usually not more than 10 days a month. Little rain in September. Average maximum temperature 33°C.

October to November: Fine warm weather with haze in the morning.

5.19.F. ARRIVAL PROCEDURES

Caution: Do not mistake Delhi (SAFDARJUNG) airport located 6 NM to the East for Delhi International airport.

RWY 10/28

- Do not mistake parallel TWY P for Runway 10/28.

RWY 28

- Normal departure RWY.
- When the surface wind velocity exceeds 10 kts, up-draughts can be expected on final approach.

5.19.G. GROUND MANEUVERING

Apron

- Poorly light aprons, exercise cautions due vehicle and people movement.

TWYs Speed

- Taxiing aircraft - Maintain a minimum speed of not less than 15 knots on the straight portion of TWYs and between 8-12 kts during turning maneuvers.

TWY E2

- Exercise caution while taxiing.

5.19.H. DEPARTURE PROCEDURES:


Request start-up within 5 minutes of filed EOBT. If unable to make start-up within 5 minutes of EOBT, a delay may occur subject to traffic situation. If intersection take-off is possible advise ATC at time of push back/start-up. Pre-departure checks

should be completed before entering active runway to expedite traffic flow.
Expect take-off clearance after line-up.


No ATC speed restriction applicable for departing aircraft except when specified by ATC.

5.19.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OPLA	9	VOR/VOR	18R/36L	2743	MAX
Lahore		VOR/ILS	18L/36R	3360	MAX
OPRN	9	CIR/ILS	12/30	2743	MAX
Islamabad					
VAAH	9	VOR/ILS	05/23	3505	MAX
Ahmedabad					
VABB	9	ILS/ILS	09/27	2963	MAX
Mumbai		ILS/VOR	14/32	2517	MAX
VANP	8	VOR/ILS	14/32	3200	MAX
Nagpur					
VIJP	7	VOR/ILS	09/27	2797	MAX
Jaipur					
VILK	6	VOR/ILS	09/27	2585	MAX
Lucknow					

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5.20. DOHA (OTBD) - QATAR

Name of Airport : Doha International

5.20.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	16/34	3772	MAX	
D - ATIS			PDC / DCL		Noise Abatement Procedure
NIL			NIL		TBA

5.20.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Birds in vicinity of airport.*

Caution: *New Doha International Airport under construction, located 2.8 NM East of runway 16/34. The new parallel runways are nearing completion. Exercise caution and do not confuse new parallel runways with runway in use at Doha.*

5.20.C. TERRAIN

Doha is a joint military civil airfield with high level of military activity. The airport has an elevation of 35 feet.

5.20.D. AIR TRAFFIC CONTROL

The standard of ATC and English is good.

5.20.E. WEATHER


The weather of Doha is very hot with no rain between **June to October** but humid on the coast. The rest of the year is pleasantly mild/warm and sunny with occasional showery rain during **December to March**.

July to September: Night fog possibility from 1800 to 0200 UTC.

November to February: Early morning fog possibility from 2300 to 0400 UTC.

5.20.F. ARRIVAL PROCEDURES

Caution: *With a strong Northerly wind windshear can be expected on approach.*

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Caution: *On approach to Runway 34, highway with shielded illumination visible to aircraft.*

When **Danger Area “OB (D)-28” is active**; expect ATC (Emirates ACC) to re-route via waypoint “BUNDU” or alternatively provide radar vectoring for handover to Doha ATC. Note: actual ATS route filed and depicted on OFP is “VEBAT P899 MEKMA NAJMA”, which passes through “OB (D)-28”.

Radio Comms failure; refer to Jeppesen text manual, Section “Emergency” for procedures used in UAE and Bahrain FIRs.

Inbound Doha via waypoint “**MISDI**” (Tehran/Bahrain FIR boundary), expect to cross at FL180. FL restriction included in OFP calculation.

5.20.G. GROUND MANEUVERING

- Taxi Speed - Do not exceed 10kts
- Utilize Ground Maneuver Camera System (GMCS)
- Do not follow the yellow taxiway center-line marking, apply judgmental oversteering method
- Refer to FCTM “Techniques for turning while taxiing
- Monitor wing tip clearance towards parking aircraft
- Pay attention to elevated taxiways edge light fixtures (in the turn the fixtures are flushed).

When using turning pad on Rwy 16, turning should be anti-clockwise.

Isolated parking area (Taxiway E2) is used in case of security issues relating to an aircraft, i.e hijacking, bomb threat.

5.20.H. DEPARTURE PROCEDURES

Call Doha tower on 118.9MHZ, 10 minutes before requesting start-up. Aircraft will be pushed back on western apron, facing North.

5.20.I. MISCELLANEOUS

a) Security

Catering will be escorted to the aircraft and a checklist confirming seal numbers will be handed over the CSD/CS for their confirmation that the seals were intact on delivery to aircraft.

- Copy of this form will also be handed over to the CSD/CS for records.


b) Ground Communication

TBN


5.20.J. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft				
Location					772 / 3	343 / 6	332 / 3	300 / 10	320 / 1
OBBI	10	ILS/ILS	12L/30R	3657	MAX	MAX	MAX	MAX	MAX
Bahrain (Note 1)		NONE	12R/30L	2222	MAX	MAX	MAX	MAX	MAX
OEDF	9	ILS/ILS	16L/34R	4000	MAX	MAX	MAX	MAX	MAX
Dammam		ILS/ILS	16R/34L	4000	MAX	MAX	MAX	MAX	MAX
OMAA	9	ILS/ILS	13R/31L	4100	MAX	MAX	MAX	MAX	MAX
Abu Dhabi		ILS/ILS	13L/31R	4100	MAX	MAX	MAX	MAX	MAX
OMDB	10	ILS/ILS	12L/30R	3600	MAX	MAX	MAX	MAX	MAX
Dubai		ILS/ILS	12R/30L	3730	MAX	MAX/367	MAX	MAX	MAX
OMSJ	9	VOR/ILS	12/30	3760	MAX/347	MAX/349	231/229	MAX	MAX
Sharjah									
OTBH	8	VOR/ILS	16/34	3750	MAX	MAX	MAX	MAX	MAX
Al Udaid									

Note 1: First Company preferred alternate.

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5.21. DUBAI (OMDB) - UNITED ARAB EMIRATES

Name of Airport : Dubai International

5.21.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
10	ILS / ILS	12L/30R	3600	MAX
	ILS / ILS	12R/30L	3880	MAX

5.21.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Birds in vicinity of airport.*

Note: *In accordance with the security procedures at Dubai International Airport, transit crew members can leave and re-enter the aircraft once only.*

5.21.C. TERRAIN

The airport is located close to the coast on the outskirts of the city with an elevation of 34 feet. Terrain is not a significant factor although there are several man made obstructions in the area.

High ground to the Northeast, East, South extending beyond 25 NM from the airport

5.21.D. AIR TRAFFIC CONTROL


Air Traffic Control is generally very good.

Delay messages transmitted to the crew by ATC should be interpreted as

follows: "No Delay expected" means:

- Do not anticipate being required to remain in a holding pattern longer than 20 minutes before commencing an approach.

When delay greater than 20 minutes

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- The controller will pass Estimate Approach Time (EAT).

Note: The term “Fuel emergency” has no status in ATC phraseology. Radio call prefixed with “MAYDAY” for distress or “PAN” for urgency will ensure priority handling.

Dual Runway Operations

Dedicated controller assigned for each runway with same call-sign “Tower”.

- Air 1 (one) responsible for Northern RWY 12L/30R
- Air 2 (two) responsible for Southern RWY 12R/30L

Clearance Limit Points

Standard clearance limit points will be used for transfer of aircrafts and vehicular traffic.

5.21.E. WEATHER

Early morning fog is a possibility at any time of year.

March to May: Occasional dust storms are most likely during the period. Thunderstorms, although infrequent, may be severe.


Low-level windshear may occur with calm or light surface winds.

5.21.F. ARRIVAL PROCEDURES:

Caution: Due to similar runway alignment, do not mistake Sharjah airport located 10NM Northeast of Dubai.

Minimum spacing on final approach between successive aircraft will be 5nm or minimum vortex wake separation, whichever is greater. (This will be measured from the point where the first aircraft is at 4nm from touchdown and both aircrafts have been issued a speed restriction of 160kts to 4nm final).

The UAE enforces an approach ban policy which states that aircraft may not descend below 1000ft above aerodrome if relevant runway visual range is at the time less than the specified landing minima. When visibility is close to, or below, the prescribed minima, ATC shall advise current IRVR reading to aircraft when they are approx 1000ft on final approach.


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5.21.G. GROUND MANEUVERING:
NIL

5.21.H. DEPARTURE PROCEDURES:
NIL

5.21.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OMAA	9	ILS/ILS	13R/31L	4100	MAX
Abu Dhabi		ILS/ILS	13L/31R	4100	MAX
OMAL	9	ILS/VOR	01/19	4000	MAX
Al Ain					
OMSJ	9	VOR/ILS	12/30	3760	MAX
Sharjah					
OTBD	9	ILS/ILS	16/34	3772	MAX
Doha					

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5.22. DUSSELDORF (GERMANY)

Name of Airport :

5.22.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS/ILS	05L/23R	6923	MAX
	ILS/ILS	05R/23L	7844	MAX

5.22.B. GENERAL WARNING, CAUTION AND NOTES

TBN

5.22.C. TERRAIN

TBN

5.22.D. AIR TRAFFIC CONTROL

TBN

Dual Runway Operations

TBN

5.22.E. WEATHER

TBN

5.22.F. ARRIVAL PROCEDURES:


TBN

5.22.G. GROUND MANEUVERING:
TBN

5.22.H. DEPARTURE PROCEDURES:
TBN

5.22.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
					MAX
					MAX
					MAX
					MAX
					MAX
					MAX

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5.23. FRANKFURT (EDDF) – GERMANY

Name of Airport : Frankfurt - Main International

5.23.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
10	ILS / ILS	07L/25R	4000	MAX	
	ILS / ILS	07R/25L	4000	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
Yes			DCL (Refer to Jeppesen briefing pages)		See departure section of this brief & Jeppesen text manual, ATC pages for Germany

5.23.B. GENERAL WARNING, CAUTION AND NOTES

Note: *With winds between direction 200° and 160° clockwise and speeds of 15 kts and more on Runway 18, Gust and strong windshifts up to tailwind component may occur.*

5.23.C. TERRAIN

The airport is located 6 NM to the Southwest of the city centre with an elevation of 364 feet. The River Main runs through the city and joins the much larger Rhein opposite the town of Mainz. There are rolling hills all around Frankfurt which do not present any particular problems as most approaches start 4000 feet.


5.23.D. AIR TRAFFIC CONTROL

The Air Traffic control is generally very good. Traffic density may be problem.

5.23.E. WEATHER

June to September: Generally warm and sunny weather

September to November: Good weather with the probability of fog increasing as the season progresses.

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December to March: Cold and wet. Fog occurs in high humidity and low wind conditions as in all of Northern Europe.

April to May: Variable weather, although the foggy season should be well gone.

5.23.F. ARRIVAL PROCEDURES

RWY 18

Not available for landing.

Noise Abatement Procedure

Leave the initial approach fix at 210 kts \pm 10 kts, maintain until 12 NM from touchdown. Reduce speed to 160 kts \pm 10 kts using an intermediate flap setting with landing gear up. Intercept glide path at not lower than 3000 feet AAL. Lower landing gear, set flaps for landing and establish final approach speed shortly before or over Outer Marker.

5.23.G. GROUND MANEUVERING

Modes S Transponder

– Should be activated when aircraft on ground. After landing - until aircraft is fully parked.

Departure - from the request for push-back or taxi, which ever occurs first.

5.23.H. DEPARTURE PROCEDURES

Departures to South and Southeast, expect RWY18 with tailwinds not exceeding 10kts. Winds exceeding 10kts for RWY18 will be announced via ATIS.

RWY 18

– RWY18 used for departure South/Southeast with tailwinds not exceeding 10kts.

– Taxi-Time : Allow at least 25 mins for push-back and Taxi

Noise abatement procedures are as follows, at 1500 feet AGL


- Reduce thrust to climb thrust;
- Accelerate while climbing and retract flap/slat on schedule;
- Transition to normal en-route climb speed.

De-icing

Contact Freq 135.225

5.23.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EDFH	9	ILS/ILS	03/21	2745	MAX
Frankfurt Hahn					
EDDK	10	NON/ILS	06/24	2459	MAX/79
Cologne Bonn		ILS/ILS	14L/32R	3815	MAX
EDDS	10	ILS/ILS	07/25	3045	MAX
Stuttgart					
EDDL	9	ILS/ILS	05R/23L	2700	MAX
Dusseldorf		ILS/ILS	05L/23R	2400	MAX
EDDM	9	<i>ILS/ILS</i>	<i>08L/26R</i>	<i>4000</i>	<i>MAX</i>
Munich		<i>ILS/ILS</i>	<i>08R/26L</i>	<i>4000</i>	<i>MAX</i>

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5.24. ISFAHAN (OIFM), IRAN

Name of Airport: Shahid Beheshti International

5.24.A. AIRFIELD DATA:

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
8	ILS / ILS	08L26R	4397	MAX
	VOR / VOR	08R/26L	4397	MAX

5.24.B. WARNINGS, CAUTIONS AND NOTES:

Caution: The airfield elevation of 5072 ft gives a high TAS and consequent large turn radii.

Caution: Refer to the TLR (Aero data) to confirm any limitations. Check for landing weight limitations before deciding on tankering.

Caution: All taxiway widths are 75 feet , except TWY 6 and 10 which are 280 feet. Review Jeppesen Airport charts.

Caution: Intensive bird accumulation presents a hazard in the vicinity of the airport. Additionally, stray dogs have been observed in the vicinity of the aerodrome and movement areas.


Note: Pilots must be Self-Briefed and preferably visited before operations.

Note: On the basis of rules and regulations of I.R.Iran., entrance and/or export of Alcoholic Drinks, Gambling material and also Magazines, photos, film and snaps and those goods which is against religious and Islamic dignity is totally prohibited.

Note: Women by law must wear a headscarf in public

5.24.C. TERRAIN:

The airport is surrounded by mountains to the West that are 7812 feet (12,884feet AMSL) and to the North that are 7707 feet (12,779 ft AMSL) above the aerodrome.

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5.24.D. AIR TRAFFIC CONTROL:

The standard of ATC is satisfactory. Use standard and simple phraseology.

5.24.E. GROUND FACILITIES:

All standard equipment is available.

5.24.F. WEATHER:

Summer is mostly fine apart from light dust haze at times. During winter the presence of CB's in the vicinity of the airfield and moderate rain can be expected.

5.24.G. ARRIVAL PROCEDURES:

None.

5.24.H. COMPANY APPROACH PROCEDURES:

None.

5.24.I. DEPARTURE PROCEDURES:


None.

5.24.J. ADDITIONAL INFORMATION:


None.

5.24.K. ALTERNATES :

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OIIE	9	ILS / ILS	11L/29R	4198	MAX
Tehran Imam		VOR/VOR	11R/29L	3660	MAX
OIII	9	VOR/VOR	11L/29R	3992	MAX
Tehran Mehrabad		VOR/ILS	11R/29L	4038	MAX
OIMM	8	VOR/ILS	13L/31R	3776	MAX
Mashhad		VOR/VOR	13R/31L	3886	MAX
OISS	8	CIR/ILS	11R/29L	4259	MAX
Shiraz		CIR/VOR	11L/29R	4342	MAX

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5.25. ISLAMABAD (OPRN) - PAKISTAN

Name of Airport : Benazir Bhuto International Airport

5.25.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft				
				319				
9	CIR / ILS	12/30	2743	263/259	265/328	219/216	167/MAX	MAX

5.25.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Birds in vicinity of airport.*

Caution: *Danger and restricted areas surround the airport.*

Caution: *Runway 30 - Dumbell located at displaced threshold, closed to all aircraft.*

Caution: *Runway 12/30, use minimum power while turning on dumbell(s).*

Note: *Delays can occur due to aircraft back-tracking on the runway and the single taxiway to and from the parking area for wide bodies (Taxiway Alpha)*

5.25.C. TERRAIN

The airport is located Southeast of the city of Islamabad and Northeast of the city of Rawalpindi. It is used jointly by military and civil aviation. The airport has an elevation of 1668 feet.

5.25.D. AIR TRAFFIC CONTROL


The standard of ATC is average. Use standard Phraseology.

Islamabad Primary radar has a range of 100 NM (200 NM Secondary).

5.25.E. WEATHER

December to February: Fog conditions can occur but usually cleared by 11 AM Local time. The minimum winter temperature is -2° C with frost but no reported ice.

July to September: These are hot Summer months with temperatures upto 40°C with frequent thunderstorms and rain.

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5.25.F. ARRIVAL PROCEDURE

Warning: *The Tower Controller does not have full visual coverage of the Runway (especially Runway 12 threshold) or the Start-up Ramp.*

Warning: *Do not mistake small airfield with Runway alignment 14/32 at approximately 4 NM South West of airport.*

Caution: *Roads / Islamabad highway running in similar alignment to the runway have brighter lights than the runway itself and can be mistaken in poor visibility.*

Caution: *Pilots are to exercise extreme caution during wet runway conditions. After heavy rain, mud oozes through joints and onto the runway surface. This condition, combined with a downhill slope on the second half of Runway 30 and excessive rubber deposits, can cause serious stopping problems.*

Caution: *Civilian aircraft are to taxi over arrestor cables with caution.*

Note: *The parking area available for heavy jets is filled very quickly if Lahore is fogged in, be prepared to divert due to lack of parking space.*

The prohibited area is located approximately 5 NM Southwest of the field is a nuclear test zone. No Radar vectors will be given in this area; for this reason expect a 9 NM final for Runway 30.

5.25.G. GROUND MANEUVERING

Taxi-line to parking stand 9 can be easily missed.


5.25.H. DEPARTURE PROCEDURE

Caution: *RWY 12 - The first 274m of Runway can not be used.*

5.25.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OPKC	9	NON/ILS	07L/25R	3200	MAX
Karachi (Note1)		NON/ILS	07R/25L	3400	MAX
OPLA	9	VOR/VOR	18R/36L	2743	MAX
Lahore		VOR/ILS	18L/36R	3360	MAX
OPNH	8	VOR/VOR	02/20	2743	MAX
Nawabshah (Note2)					
OPPS	9	VOR/VOR	17/35	2743	MAX
Peshawar (Note3)					
VIDP	9	VOR/ILS	09/27	2661	MAX
Delhi		ILS/ILS	10/28	3810	MAX
		ILS/ILS	11/29	2820	MAX

Note 1: Company preferred alternate during winter season due to congested apron in Lahore.

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5.26. ISTANBUL (LTBA) - TURKEY

Name of Airport : Ataturk International

5.26.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
10	CIR / ILS	18R/36L	3000	MAX
	ILS / ILS	18L/36R	3000	MAX
	ILS / ILS	06/24	2300	MAX

5.26.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Birds and stray dogs in vicinity of airport.*

5.26.C. TERRAIN

The airport is located 13 NM West of the city on the Northern edge of the Marmar Sea with an elevation of 163 feet. Terrain is not a significant consideration within the immediate vicinity although there is high ground outside 10 NM to the East. Approaches to Runway 36 or 06 are over water.

5.26.D. AIR TRAFFIC CONTROL

The standard of ATC and English is variable.


5.26.E. WEATHER

December to May: The area can be subject to heavy snowfall.

June to October: Thunderstorms are generally confined to these months.

November to January: These are the months with the highest incidence of poor visibility and low cloud with ceilings below 600 feet and visibility below 500 metres.

Winter: Fog is normally restricted to advection fog formed over the sea it is often blown inland over the airport. Mean surface wind is north to northwest at 10 to 15 knots.

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5.26.F. ARRIVAL PROCEDURE

Caution: Taxiway and apron centerline marking is poor, especially in adverse weather or at night. Apron and taxiways are reported very slippery when wet, and numerous minor deficiencies to inadequate stand guidance, marshalling and pushback.

5.26.G. GROUND MANEUVERING


NIL

5.26.H. DEPARTURE PROCEDURE

NIL

5.26.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
LTAC	9	ILS/ILS	03L/21R	3400	MAX
Ankara (Note 1)		ILS/ILS	03R/21L	3750	MAX
LTAI	9	VOR/ILS	18C/36C	3400	MAX
Antalya (Note 2)		VOR/ILS	18L/36R	3400	MAX
		VOR/ILS	18R/36L	3400	68/66
LTBJ	9	ILS/ILS	16L/34R	3240	MAX
Izmir (Note 3)		VOR/VOR	16R/34L	3240	MAX
LTFJ	9	ILS / ILS	06/24	3000	MAX
Istanbul - Sabi					

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5.27. JEDDAH (OEJN) - SAUDIA ARABIA

Name of Airport : King Abdul Aziz International

5.27.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	16C/34C	3303	MAX
	ILS / ILS	16L/34R	3690	MAX
	ILS / ILS	16R/34L	3803	MAX
D – ATIS			PDC / DCL	Noise Abatement Procedure
Yes			NIL	NIL

5.27.B. GENERAL WARNING, CAUTION AND NOTES

Caution: Birds in vicinity of airport.

Note: Terrorist threats are to be taken seriously.

5.27.C. TERRAIN

The airfield is situated 2 NM inland to the North of the city of Jeddah with an elevation of 48 feet.


The airfield has three wide spaced parallel runways. The Easterly runway is usually reserved for military traffic. Simultaneous arrivals and departures take place.

5.27.D. AIR TRAFFIC CONTROL

The standard of ATC and English can be poor.

5.27.E. WEATHER

The climate is extremely dry and arid throughout the year, with unreliable rainfall. There is little rainfalls between **November to December to April or May**. Temperatures from May to September are extremely high and although inland the humidity is quite low on the coast it can become high adding to the discomfort. Temperatures in winter are generally mild and warm but inland and in higher areas these can fall low enough for frost and snow to occur. Winter nights in the desert can be particularly cold. Prevailing wind Northerly.

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Early morning fog in **Spring**. Dust storms occur throughout the **Summer**.

5.27.F. ARRIVAL PROCEDURES :

Note: *The Saudi Authorities have requested that passengers must be informed of the Ihram timing 30 minutes before passing Migat (Ihram Zone) and to repeat the same announcement 5 minutes prior passing Migat.*

If tailwind component is less or equal to 6 kts, the preferred runway for arrival is 34C.

Caution: *When taxiing be aware of uncontrolled vehicle traffic crossing some taxiways.*

There is a dedicated terminal for Haj flights. However during the Haj Pilgrimage Season, the timing of which is variable, the number of flights and particularly East West flights entering Saudi airspace from North and Central Africa increases dramatically and with it the risk of ATC incidents.

5.27.G. GROUND MANEUVERING

NIL

5.27.H. DEPARTURE PROCEDURES:

If tailwind component is less or equal to 6 kts, the preferred runway for departure is 34L.

5.27.I. PILGRIMAGE TO MECCA:


Many passengers to Jeddah are pilgrims bound for Mecca.

Umrah :

Umrah is the name given to the act of going on the pilgrimage to the holy city of Mecca at times other than Haj period. Pilgrims unable to attend the Haj will endeavor to attend Umrah.

- Haj :**

Haj is the name given to the act of going pilgrimage during the period laid down by the Saudi authorities and ending at Eid-Al-Adha.

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- **Haj Operations :**

Haj Operation is the form of Charter flights in addition to schedule services will be undertaken during the Haj period.

These flights present a significant security problem to the Saudi Arabia government who normally maintain a tight control over immigration. The regulations for the trans- port of Haj passengers are strict and infringements will result in heavy fines for the Operator concerned with ticketing, documentation and control of passenger move- ment on the ground.

However, the following points require the attention of crews on both Haj operations and normal flights carrying pilgrims undertaking Umrah. These are as follows:

- **Al Megat:**

This is the time when the pilgrims would be appropriately dressed. It may be taken as a distance 80 NM from Jeddah or refer to the Jeppesen/Jeddah arrival, so a PA announcement should be made shortly after take-off or early in the flight informing the pilgrims of the estimated time at AL-MEGAT. A personnel announcement call must be made at AL-MEGAT in order to indicate when to start praying.

- **Scheduled services during Haj:**

The PA announcements allowing time for pilgrims to prepare for Al-Megat and the actual position report will be made as in the previous paragraph. In addition Haj pas- senger will remain on board until the other passengers have disembarked. Cabin Staff have been instructed to make a PA announcement to this effect.


- **Normal Operations:**

Normal operations to Jeddah will frequently carry pilgrims undertaking Umrah and these pilgrims should be shown due courtesy and consideration. The PA announce- ments allowing time for preparation and the actual position of Al-Megat will be made as described in the paragraph titled Al-Megat.

5.27.J. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OEDF	9	ILS / ILS	16L/34R	4000	MAX
Dammam		ILS / ILS	16R/34L	4000	MAX
OEMA	9	<i>ILS/ILS</i>	<i>17/35</i>	<i>3300</i>	<i>MAX</i>
Madinah		<i>VOR/ILS</i>	<i>18/36</i>	<i>3050</i>	<i>MAX</i>
OERK	9	<i>ILS/ILS</i>	<i>15L/33R</i>	<i>4205</i>	<i>MAX</i>
Riyadh - King Khalid (Note)		<i>ILS/ILS</i>	<i>15R/33L</i>	<i>4205</i>	<i>MAX</i>
OETF	9	VOR/VOR	07/25	3735	MAX
Taif		VOR/ILS	17/35	3350	MAX

Note: Company preferred alternate during Haj season.

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5.28. KARACHI (OPKC) - PAKISTAN

Name of Airport : Jinnah International

5.28.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	NON / ILS	07L/25R	3200	MAX
	NON / ILS	07R/25L	3400	MAX

5.28.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Birds in vicinity of airport.*

Note: *Aircraft arresting barrier net assembly installed 100 m before Threshold Runway 25R.*

5.28.C. TERRAIN

The airport is located 9 NM East of Karachi on the outskirts of the city with an elevation of 100 feet. A military airfield is located 3 NM to the Southwest and the Pakistan Oil Refinery 4 NM to the South.


5.28.D. AIR TRAFFIC CONTROL

The standard of ATC is average. Use standard Phraseology.

5.28.E. WEATHER

October to February: The area is subject to rapid fog formation. The dissipation of fog from the airport takes longer than from the surrounding area.

Summer: Orographic storms may be a problem due to intense heating, visibility is often less than 6000m. Winds are usually light.

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5.28.F. ADDITIONAL INFORMATION

a) Arrival Procedures:

Caution: Do not mistake Runway 08 of Shara-e-Faisal Airbase about 3 NM Southwest for Runway 07L.


Karachi has two parallel runways which show up light against the background, whereas Shara-e-Faisal has only one runway which shows black against the background.

b) Departure Procedures:

NIL

5.28.G. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OOMS	9	ILS/ILS	08/26	3165	MAX
Muscat					
OPLA	9	ILS/ILS	18L/36R	3360	MAX
Lahore		ILS/ILS	18R/36L	2743	MAX
OPNH	8	VOR/VOR	02/20	2743	MAX
Nawabshah					
VAAH	9	VOR/ILS	05/23	3505	MAX
Ahmedabad					
VABB	9	ILS/ILS	09/27	2963	MAX
Mumbai		ILS/VOR	14/32	2517	MAX

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5.29. KIEV (UKBB) – UKRAIN

Name of Airport : Borispol International Airport

5.29.A. AIRPORT DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
8	ILS / ILS	18L/36R	12139	MAX
	ILS / ILS	18R/36L	10511	MAX

5.29.B. WARNINGS, CAUTIONS AND NOTES

Warning: RWYs 18R / 36L restricted due to rough surface and PCN 39/R/C limited to 61,200 kgs.

Caution: Various prohibited areas exist in the North western quadrant of the airfield.

Caution: Birds in vicinity of the airport.

Caution: Some CIS aircraft do not have TCAS equipped transponders and will not appear as targets on the display, Flight crew shall maintain a constant lookout


Caution: Winter Temperatures may require Cold Temperature Corrections to Altitudes. Most stations in Ukraine should normally provide QNH. Use of QFE procedure is not allowed

Caution: Snow removal operations can be expected in winter. Ramp areas and TWYs may be covered with compacted snow / ice. Exercise caution while taxiing.

Caution: In the event of Depressurization, Escape Routes are in effect for certain route

Sectors to destination, See Chapter OM PART C - 7

Note: ICAO units are now being used by ATC Altitudes and Flight Levels have been Converted from meters to feet. Feet / Meter Conversion table on the Jeppesen charts have been published for reference only.

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Note: *If poor weather conditions are forecast, consider carrying extra fuel for holding and/or diversion.*

5.29.C. TERRAIN:

Airport is located 25 km south of Kiev city centre. No significant terrain exists around the Boryspil International; the highest man made obstacle is 1870 feet NW at around 22 NM.

5.29.D. AIR TRAFFIC CONTROL:

The standard of ATC is satisfactory. Use standard and simple phraseology.

5.29.E. WEATHER:

The climate in Kyiv is continental with 4 distinct seasons. Prevailing winds are westerly and at times quite strong. Below CAT II minima weather is not common.

Winter: Long and Cold Starting in October/November and lasting 5 to 6 months. Temperatures are below freezing most of the winter with December and January temperatures sometimes below -18°C.

Strong winds are common. Most weather activity consists of CBs or low clouds and snowstorms. A blanket of snow usually forms in November and remains for about 4 months.


Frequently morning fog occurs during autumn and winter months but usually dissipates by midmorning.

Snowstorms from the south-west affect about 30 days of the year and fog affects on average 60 days of the year.

Summer: June to September. Summers are generally warm, humid and sunny with mean maximum temperatures above +30°C. Rapid weather changes are not uncommon during May - August with rainy mornings followed by sunny afternoons. Fairly often afternoon thunderstorms occur which usually contain strong turbulence and hail and can cause heavy aircraft damage.

5.29.F. ARRIVAL PROCEDURES:

Speed restrictions: 250 KIAS below FL 100 and within 30 NM from the airport. Expect KONIP STAR followed by radar vectors for the active RWY approach in use. Depending on the winds and visibility RWY 18L is used for its CAT II capability. Transition NDB CY followed by radar vectors to the final segment.

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After landing expect to vacate via taxi-way A5, C and D1 and to be marshaled by the Follow-Me Car.

Apron M is usually used for parking. Parking space is limited.

Noise abatement procedures apply, refer to Jeppesen chart 10-1P.

Caution 1: *Some operators have reported false LOC beam capture for ILS RWY 36R.*

Final course check (358 Deg) should be performed.

Caution 2: *While on a visual approach, flight crew is cautioned not to mistake the two other international airports, Antonov and Zhuliany, in the North and North – West of Kyiv International.*

LVP is in effect when TDZ RVR is less than 600 meters. ATC will provide RVR during approach. If LVP is planned, pilot shall advise ATC by stating “REQUEST CAT II APPROACH”. After landing advise TWR when RWY is vacated. In low visibility conditions, ATC will ask the crew to state:

- Captains minima (DH/RVR/VIS);
- Nominated alternate; and
- Endurance.

5.29.G. GROUND MANOUVERS

Adequate ground facilities available.

Fueling staff do not speak English. Use FLY GEORGIA staff to communicate with them.

5.29.H. DEPARTURE PROCEDURES:


Call ‘Boryspil Delivery’ for clearance 5 minutes before start to avoid delay. Expect TR SIDs or radar vectors from the active Runway towards the OFP route.

Noise abatement procedures apply, refer to Jeppesen chart 10-1P.

De-icing Procedures: Extreme winter conditions would require De-icing procedures. Fluid Types I, II and IV are available. De/anti-Icing may be at the stand or after pushback. Co-ordinate with lead ground mechanic way ahead of Departure. Communication during De-icing procedures may be non-standard. Expect to receive a verbal notification “Starting now”, and note the time of start of application by self.

5.29.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
UMGG	6	ILS/ILS	10/28	7334	MAX
Homiel		ILS/ILS	28/10	7456	MAX
UMMS	8	ILS/VOR	13/31	10974	MAX
Minsk 2		ILS/ILS	31/13	10852	MAX
UMMM	5	ILS/ILS	12/30	6234	MAX
Minsk 1		N/A	30/12	6234	MAX
UKFF	7	ILS/VOR	01/19	11109	MAX
Simferopol		ILS/VOR	19/01	10988	MAX

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5.30. KOLKATA (VECC) - INDIA

Name of Airport : Netaji Subhash Chandra Bose International

5.30.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	VOR / NON	01L/19R	2749	MAX/80
	ILS / ILS	01R/19L	3200	MAX
D - ATIS			PDC / DCL	Noise Abatement Procedure
Yes			Nil	Nil
Curfew			Operating Hours	Remarks
Nil			H24	Nil

5.30.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: RWY19L: Turning pad located at displaced threshold Not Authorized.

Note: Birds in vicinity of aerodrome.

5.30.C. TERRAIN

- No significant terrain in vicinity of aerodrome.

5.30.D. AIR TRAFFIC CONTROL


- Arr/Dep: Report ACFT registration upon first contact with Kolkata ground.
- LVP procedures and Radio Communication Failure (RCF): See Jeppesen airport briefing pages.

5.30.E. WEATHER

Mar to May: TS moving from the NW, severe squall conditions, generally lasting between 30 to 40 minutes.

Jun to Sep: SW monsoon with frequent CBs and heavy rainfall. Expected Surface winds: SW direction.

Oct to Mar: Fog occurs 0400 - 1000 (local time). Expected Surface winds: NE direction.

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5.30.F. ARRIVAL PROCEDURE

Expect Radar vectoring. Ensure correct landing RWY is identified.

5.30.G. GROUND MANEUVERING

TWY B (between 19L and 19R)

- Not Authorized for A319. TWY B (between 19R and TWY F)
- Northbound on TWY A, left turn to TWY F (towards the apron) is sharp, noting the elevated edge lights.

Parking Stands

Aircraft	Applicable Parking Stand
A319	15, 16, 17, and 41 to 50

Intermediate Holding Points (ITH)

On TWY A	In between TWY C and D and short of G
On TWY A	In between A and B


5.30.H. DEPARTURE PROCEDURE

Nil


5.30.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
VGZR	9	ILS/VOR	14/32	3200	MAX
Dhaka					
VGEG	7	VOR/ILS	05/23	2940	MAX
Chittagong (Note1)					
VOHS	9	ILS / ILS	09/27	4260	MAX
Hyderabad					
VIDP	9	VOR/ILS	09/27	2661	MAX
Delhi		ILS/ILS	10/28	3810	MAX
		ILS/ILS	11/29	2820	MAX
VTCC	9	VOR/ILS	18/36	3100	MAX
Chiang Mai					
VABB	9	ILS/ILS	09/27	2965	MAX
Mumbai		ILS/VOR	14/32	2471	MAX

Note 1: VGEG: Operational hours vary, before deciding to divert, check that airport is available.

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5.31. KUWAIT (OKBK)

Name of Airport : Kuwait International

5.31.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	15R/33L	3400	MAX
	ILS / ILS	15L/33R	3500	MAX/88

5.31.B. GENERAL WARNING, CAUTION AND NOTES

NIL

5.31.C. TERRAIN

The airport is located 8 NM South of Kuwait city with an elevation of 206 feet.

The most significant obstacle is a communications tower North of the airfield at 10 NM. The height of the tower is 1351 feet. The MSA is 3000 feet in all sectors to 25 NM.

5.31.D. AIR TRAFFIC CONTROL

Air Traffic Control is generally very good.

5.31.E. WEATHER

Kuwait is a desert country with little annual rainfall. Most rain falls between **November to March** but there are few rainy days. Temperatures in winter are mild, summers consistently hot and only on the coast the temperature is little lower although the humidity here is higher.

The temperature in summer is the biggest factor. On occasions the temperature may exceed 50°C. Sand storms are possible and may reduce visibility, and in the winter early morning mist is likely due to the proximity of the sea.

Turbulence on final approach is common.

During the **winter** months troughs bring some rain with occasional reduced ceiling; embedded Cu/CB a possibility. Early morning fog occurs during winter. Dust storms occur mainly in **summer**. Prevailing wind N'ly.

5.31.F. ARRIVAL PROCEDURES:

Caution: Parallel highway lighted by night 0.2 NM East of Runway centreline may be mistaken for Runway.

5.31.G. GROUND MANEUVERING:


NIL

5.31.H. DEPARTURE PROCEDURES:

Note: Advise ATC upon start up if final level differs to Original Flight Plan.

5.31.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	Runway	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OBBI	10	ILS/ILS	12L/30R	3657	MAX
Bahrain		NONE	12R/30L	2222	MAX
OEDF	9	ILS/ILS	16L/34R	4000	MAX
Dammam		ILS/ILS	16R/34L	4000	MAX
OERK	9	ILS/ILS	15L/33R	4205	MAX
Riyadh - King Khalid		ILS/ILS	15R/33L	4205	MAX
OTBD	9	ILS/ILS	16/34	3772	MAX
Doha					

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5.32. LAHORE (OPLA) - PAKISTAN

Name of Airport : Allama Iqbal International

5.32.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	VOR / VOR	18R/36L	2743	MAX	
	VOR / ILS	18L/36R	3360	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
Nil			Nil		Nil

5.32.B. GENERAL WARNING, CAUTION AND NOTES

Warning: The Pakistani/Indian border is located within 10 NM to the East of the airfield. Pilots should avoid maneuvering in this area.

Caution: Birds in vicinity of airport.

5.32.C. TERRAIN

The airport is located South East of the city of Lahore with an elevation of 712 feet. It is a non-active military airbase, now controlled by the Pakistani CAA.

5.32.D. AIR TRAFFIC CONTROL

The standard of ATC is average. Use standard Phraseology.

5.32.E. WEATHER

December to February: Fog conditions can occur but usually cleared by 11:00 AM local.


July to September: Monsoon season, moving from the East, with rain and thunderstorms. Meteorological forecast are reliable.

5.32.F. ARRIVAL PROCEDURES

Warning: The tower control does not have full visual coverage of the runway (especially Runway 18L threshold).

Walton Aerodrome is in close proximity, local training flights by light aircraft and gliders during the day. All A/C arriving at Lahore to maintain 2500 feet (QNH) until cleared for further descent by ATC.

Note: The Pakistani/Indian border is very well lit at night.

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5.32.G. GROUND MANEUVERING

NIL

5.32.H. DEPARTURE PROCEDURES

Nil

5.32.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OPKC	9	NON/ILS	07L/25R	3200	MAX
Karachi (Note)		NON/ILS	07R/25L	3400	MAX
OPPS	9	VOR/VOR	17/35	2743	MAX
Peshawar					
OPRN	9	CIR/ILS	12/30	2743	MAX
Islamabad					
VIDP	9	VOR/ILS	09/27	2661	MAX
Delhi		ILS/ILS	10/28	3810	MAX
		ILS/ILS	11/29	2820	MAX

Note: Company preferred alternate during winter season.

5.33. LONDON - GATWICK (EGKK) - UNITED KINGDOM

Name of Airport : London Gatwick International

5.33.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	NONE	08L/26R	2148	MAX
	ILS / ILS	08R/26L	2766	MAX
D-ATIS			PDC / DCL	Noise Abatement Procedure
Yes			DCL	

5.33.B. GENERAL WARNING, CAUTIONS AND NOTES

Note 1 : Runway 08L/26R is a non-instrument runway and will only be used when Runway 08R/26L is temporarily non-operational. A change from one parallel runway to the other will result in airfield closure for 15 minutes. During any runway change PAPI indications are advisory for around 15 minutes following the change and should be used with caution.

5.33.C. TERRAIN

The airfield is located to the South of London and is surrounded by several noise sensitive communities with an elevation of 196 feet.

Terrain is not a significant consideration however there is an East/West ridge line just to the North which includes the highest natural feature in Southern England.

Note: London Heathrow is located approximately 23 NM Northwest.

5.33.D. AIR TRAFFIC CONTROL


Air traffic control is very good.

Delay messages transmitted to the crew by ATC should be interpreted as follows:

“No Delay expected” means

- Do not anticipate being required to remain in a holding pattern longer than 20 minutes before commencing an approach.

When delay greater than 20 minutes

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- The controller will pass Estimate Approach Time (EAT).

Note: *The term “Fuel emergency” has no status in ATC phraseology. Radio call prefixed with “MAYDAY” for distress or “PAN” for urgency will ensure priority handling.*

Aircraft commencing a climb or descent in accordance with an ATC clearance should inform controller if they cannot maintain a minimum rate of climb or descent during the level change is less than 500ft per min. Applies to both enroute phase of flight and to terminal holding above transition altitude.

5.33.E. WEATHER

The airfield was constructed in a river basin and can suffer from morning fog from autumn through to the beginning of spring. Snow is an infrequent event during winter although when it does occur traffic flow rates reduce substantially due to inadequate ground facilities.

5.33.F. ARRIVAL PROCEDURES

The landing runway will normally be either 26L or 08R.

The parallel runways cannot be used simultaneously due to close spacing.

Warning: *Taxiway J might be mistaken when Runway 08L/26R has been in use at night with almost catastrophic consequences. If this runway is in use the adjacent parallel runway will not have any runways lights ON.*

5.33.G. GROUND MANEUVERING

NIL

5.33.H. DEPARTURE PROCEDURES


RWY 08L/26R

Do not commence Take-off run before the start of roll sign.

SIDs

All aircraft are expected to maintain 250kts below FL 100. Pilots are requested not to ask the controller for the removal of the departure speed restriction unless there are overriding safety reasons or the aircraft configuration requires it.

Caution: *Radar tracking and noise monitoring is in progress. All departure tracks must be adhered to. The Noise preferential routing NPR prescribe the horizontal flight path only. The procedure below will govern the vertical flight path for NPR routings.*

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FMGC set-up for SID's with more than 30 degrees initial turn

A pre-selected speed of 185 kts shall be inserted in FMGC **Performance Climb Page**. Thrust Reduction Altitude shall be 1000 feet AAL.

All Engine Acceleration Altitude shall be as per LPC Engine Out Acceleration Altitude "EO accl alt" (not 3000 AGL).

Operational : At acceleration altitude and passing F speed retract the Flaps to CONF1 and fly the pre-selected speed (185 kts). This configuration shall be maintained for the initial turn. Once the initial turn is completed accelerate and clean up on schedule.

FMGC set-up for SID's with less than 30 degrees initial turn:

Thrust Reduction Altitude shall be 1000 feet AAL.

All Engine Acceleration Altitude shall be as per LPC Engine Out Acceleration Altitude "EO accl alt" (not 3000 AGL).

Note: *Pre-selecting a speed of 185 kts in the FMGC Climb Page will affect the fuel prediction since the entire climb calculation will be based on 185 kts. The difference in calculated fuel (OFP) and predicted fuel (FMGC) could be up to 900 kg. This effect should not mislead you to carry extra fuel.*

*The all Engine Acceleration Altitude is **not** 3000 feet or higher, since the SIDs out of UK airports are NPRs and not standard ICAO noise abatements.*

- Any threatening, abusive or insulting language used. Give the exact words used.
- Any threatening / aggressive behavior or body language.
- Any injury or damage caused.

5.33.I. CUSTOMS, IMMIGRATION AND SECURITY

Crew may carry liquids, pastes or gels in their hold baggage. If liquids required to be carried in cabin baggage, follow the procedure set out below:

- 1) All liquids **MUST** be presented at the search point for examination;
- 2) Liquids containers must not exceed 100ml or equivalent;
 - Drinks
 - Containerized foodstuffs
 - Cosmetics / Toiletries
 - Non prescription medicines
- 3) Container (s) must be placed in a transparent resalable bag no larger than

(8'x8');

- 4) Bag MUST be closed when presented at screening and all items must fit comfortably within it.

5.33.J. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EGBB	9	ILS/ILS	15/33	2279	MAX
Birmingham					
EGCC	9	ILS/ILS	05L/23R	2588	MAX
Manchester		ILS/VOR	05R/23L	2864	MAX
EGSS	7	ILS/ILS	04/22	3048	MAX
London Stansted (Note)					
LFPG	9	ILS / ILS	08L/26R	3615	MAX
Paris Charles- De Gaulle		ILS / ILS	08R/26L	2700	MAX
		ILS / ILS	09L/27R	2700	MAX
		ILS / ILS	09R/27L	3600	MAX

Note : EGSS RFF upgrade to CAT 9 on request.

5.34. LONDON - HEATHROW (EGLL) - UNITED KINGDOM

Name of Airport : London - Heathrow International

5.34.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
10	ILS / ILS	09L/27R	3595	MAX	
	ILS / ILS	09R/27L	3353	MAX	
D-ATIS			PDC / DCL		Noise Abatement Procedure
Yes			DCL		

5.34.B. GENERAL WARNING, CAUTION AND NOTES

Note: Due to high density of Air Traffic extra vigilance is needed when operating in to and out of London.

Note: Taxi clearance to and from aircraft stands should be followed precisely.

Note: London Heathrow is an extremely noise sensitive Airport.

5.34.C. TERRAIN

The airport is located in a populated area just to the West of the center of London with an elevation of 80 feet. The airspace is very congested as there are numerous military and civilian airfields in close proximity.

5.34.D. AIR TRAFFIC CONTROL


Air Traffic control is generally very good.

Delay messages transmitted to the crew by ATC should be interpreted as follows: "No Delay expected" means

- Do not anticipate being required to remain in a holding pattern longer than 20 minutes before commencing an approach.

When delay greater than 20 minutes

- The controller will pass Estimate Approach Time (EAT).

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Note: The term “Fuel emergency” has no status in ATC phraseology. Radio call prefixed with “MAYDAY” for distress or “PAN” for urgency will ensure priority handling.

Aircraft commencing a climb or descent in accordance with an ATC clearance should inform controller if they cannot maintain a minimum rate of climb or descent during the level change is less than 500ft per min. Applies to both enroute phase of flight and to terminal holding above transition altitude.

5.34.E. WEATHER

June to September: Generally fair weather.

September to November: Steadily increasing amount of rain and low cloud with an increasing amount of rain and low cloud with an increasing risk of fog when there is no wind.

December to March: Cold grey and damp. Early morning fog is common when there is no wind associated with anticyclonic conditions. During December and January in particular it can last all day. By March the risk of fog is small. Snow brings chaos but is an infrequent occurrence. With late departures frost may form on the aircraft.

April to May: Slowly improving weather but very changeable.


5.34.F. ARRIVAL PROCEDURES

Preferred landing runways are 27L or 27R, providing they are dry and the tailwind is less than 5 knots, with final selection being made by a noise abatement computer. If runway 09R is in use, landings are usually made on 09L.

Aircraft will be expected to conform to a Low power, Low drag procedure and speed control will be applied to facilitate this technique. The Airbus ILS decelerated approach accords with this, however expect a requirement to maintain 160 knots to the Outer Marker.

Warning: The possibility of building induced turbulence and large windshear effects may occur when landing on Runway 27R in strong Southerly/South westerly winds.

Note: At night, taxi instructions will normally be given to ‘follow the greens to assigned Stand ##’. Unlike other locations where the lights may lead the aircraft directly into the stand, the lighting configuration normally leads past the stand which has in the past, resulted in aircraft overshooting their assigned parking position.

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5.34.G. GROUND MANEUVERING

NIL

5.34.H. DEPARTURE PROCEDURES

Pre-departure clearance - on receipt of clearance, crew is reminded to acknowledge the clearance within 5 minutes.

Preferred departure runways are 27L/R and 09R.

SIDs : All aircraft are expected to maintain 250kts below FL 100. Pilots are requested not to ask the controller for the removal of the departure speed restriction unless there are overriding safety reasons or the aircraft configuration requires it.

During its hours of operation, Heathrow Delivery is responsible for clearance delivery and start approval as a separate function from Ground Movement Control. Pilots are warned that start approval applies only to those engines required to be started on the stand. Separate approval for pushback must be obtained from Ground Movement Control.

Note: *Be aware of the correct pushback procedures, engine start should not be commenced until aircraft has been pulled forward from the blast fence. Engine start prior to correct positioning could result in the injury to the guide man.*

Caution: *Radar tracking and noise monitoring is in progress. All departure tracks must be adhered to. The Noise preferential routing NPR prescribe the horizontal flight path only. The procedure below will govern the vertical flight path for NPR routings.*


- **FMGC set-up for SID's with more than 30 degrees initial turn:**

A pre-selected speed of 185 kts shall be inserted in FMGC **Performance Climb Page**.

Thrust Reduction Altitude shall be 1000 feet AAL.

All Engine Acceleration Altitude shall be as per LPC Engine Out Acceleration Altitude "EO accl alt" (not 3000 AGL).

Operational : At acceleration altitude and passing F speed retract the Flaps to CONF1 and fly the pre-selected speed (185 kts). This configuration shall

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be main- tained for the initial turn. Once the initial turn is completed accelerate and clean up on schedule.

- **FMGC set-up for SID's with less than 30 degrees initial turn:**

Thrust Reduction Altitude shall be 1000 feet AAL.

All Engine Acceleration Altitude shall be as per LPC Engine Out Acceleration Altitude "EO accl alt" (not 3000 AGL).

Note: *Pre-selecting a speed of 185 kts in the FMGC Climb Page will affect the fuel prediction since the entire climb calculation will be based on 185 kts. The difference in calculated fuel (OFP) and predicted fuel (FMGC) could be up to 900 kg. This effect should not mislead you to carry extra fuel.*

*The all Engine Acceleration Altitude is **not** 3000 feet or higher, since the SIDs out of UK airports are NPRs and not standard ICAO noise abatements.*

5.34.I. CUSTOMS, IMMIGRATION AND SECURITY

Crew may carry liquids, pastes or gels in their hold baggage. If liquids required to be carried in cabin baggage, follow the procedure set out below:

- 1) All liquids MUST be presented at the search point for examination;
- 2) Liquids containers must not exceed 100ml or equivalent;
 - Drinks
 - Containerized foodstuffs
 - Cosmetics / Toiletries
 - Non prescription medicines
- 3) Container (s) must be placed in a transparent resealable bag no larger than (8'x8');
- 4) Bag MUST be closed when presented at screening and all items must fit comfortably within it.


5.34.J. DESTINATION ALTERNATES


ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EGBB	9	ILS/ILS	15/33	2279	MAX
Birmingham					
EGCC	9	ILS/ILS	05L/23R	2588	MAX
Manchester (Note 2)		ILS/VOR	05R/23L	2864	MAX
EGKK	9	NONE	08L/26R	2148	MAX
London Gatwick (Note 1)		ILS/ILS	08R/26L	2766	MAX
EGSS	7 (Note3)	ILS/ILS	04/22	3048	MAX
London Stansted					
LFPG	9	ILS / ILS	08L/26R	3615	MAX
Paris Charles De Gaulle		ILS / ILS	08R/26L	2700	MAX
		ILS / ILS	09L/27R	2700	MAX
		ILS / ILS	09R/27L	3600	MAX

Note 1: First Company preferred alternate.


Note 2: Second Company preferred alternate.

Note 3: EGSS RFF upgrade to CAT 9 on request.

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5.35. LUXEMBOURG (ELLX) - LUXEMBOURG

Name of Airport : Luxembourg International

5.35.A. AIRFIELD DATA

ICAO Code	RFF	IAP	Runway	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
ELLX	9	ILS / ILS	06/24	4000	MAX
Luxembourg					

5.35.B. GENERAL WARNING, CAUTION AND NOTES

Note:

Textual data, ie emergency, ATC etc for Luxembourg, can be found under "Belgium & Luxembourg" in the applicable section within Jeppesen text booklets.

Note: Airport Curfew 2200 - 0500 hours.

5.35.C. TERRAIN

Luxembourg airport, elevation 1234ft MSL, is located 3.5nm East of Luxembourg City. Terrain located North and South of the airport, which is mostly gentle rolling hills.

5.35.D. AIR TRAFFIC CONTROL


ATC standard is good. Radar vectoring is used. Low Visibility Procedures (LVP), refer to Jeppesen chart 10-9B.

Circle to land NOT AUTHORIZED.

5.35.E. WEATHER

Luxembourg is influenced by two weather flow patterns, modified maritime flow from the West and continental flow from the East.

September to February: Radiation fog is most common during late autumn. Little improvement from early morning to mid-afternoon is generally observed. Low ceiling and visibilities is attributed to fog, snow and low clouds during winter months. Snowfalls are generally light during winter.

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Summer: Temperatures range from 18° to 25°. Fog may occur during early morning, but generally dissipates by 9-10am. Thunderstorms may occur in late afternoon.

Prevailing wind is Southwesterly with Easterly winds common during early summer period.

5.35.F. ADDITIONAL INFORMATION

a) Arrival Procedures:

STARs published. Expect radar vectoring with speed limitations within 25nm of "LUX" VOR. Within 15nm of "LUX" VOR, do not exceed IAS 220kts.

b) Manoeuvring Area :

When taxiing in, use minimum power on the Apron.


c) Departure Procedures:

Starting procedures - Ensure aircraft is ready for departure after receipt of ATC clearance. Average taxi time is 15 minutes.

All SIDs are minimum noise routing and must be flown accurately. Noise abatement procedure, see Jeppesen chart 10-4 for details.

5.35.G. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	Runway	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EBBR	9	ILS / ILS	02/20	2767	MAX
Brussels		VOR / ILS	07L/25R	3338	MAX
		VOR / ILS	07R/25L	3089	MAX
EDDF	10	ILS / ILS	07L/25R	4000	MAX
Frankfurt Main		ILS / ILS	07R/25L	4000	MAX
EDDK	10	NON / ILS	06/24	2459	MAX/79
Cologne - Bonn		ILS / ILS	14L/32R	3815	MAX
EDDS	10	ILS / ILS	07/25	3045	MAX
Stuttgart					
EDFH	9	ILS / ILS	03/21	2745	MAX
Frankfurt-Hahn					
EHAM	9	CIR / ILS	18L/36R	2825	MAX
Amsterdam		ILS / CIR	18R/36L	3530	MAX
		ILS / ILS	18C/36C	2850	MAX
		VOR / ILS	09/27	3363	MAX
		ILS / VOR	06/24	3250	MAX

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5.36. MADRID (LEMD) - SPAIN

Name of Airport: Barajas International

5.36.A. AIRFIELD DATA

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
Location					319	
LEMD	9	NON / ILS	15L/33R	3500	MAX	
Madrid - Barajas (H24)		VOR / ILS	15R/33L	4100	MAX	
		ILS / NON	18L/36R	3500	MAX	
		ILS / NON	18R/36L	4350	MAX	
D-ATIS			PDC / DCL			Noise Abatement Procedure
NIL			NIL			NIL

5.36.B. GENERAL WARNING, CAUTIONS AND NOTES

Note: Day and Night time preferential Runway System applies as per Jeppesen 10-1P.


5.36.C. TERRAIN

The airfield is located 13 km Northeast boundaries of the city with an elevation of 2000 feet. The vicinity close to the airfield is hilly.

Madrid is located on a high and dry plateau surrounded by mountains and hilly terrain. The highest peak in the Madrid terminal area is 8268 ft located about 26 NM Northwest of the field (La Malicisa and Penalara peaks).

5.36.D. AIR TRAFFIC CONTROL

ATC standard is generally very good. Use standard phraseology. Extensive use of Spanish language is made by ATC.

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5.36.E. WEATHER

The climate is dry continental with warm summers. The possibility of precipitation is even through out the year except at the dry and hot summer time. Generally the main wind direction is from the west. Due to the hilly surrounding terrain strong winds create bumpiness during approach and departure.

June to August: Summer months. The average daily temperature can reach upto 31°C.

December to February: Winter months. The average daily temperature can drop down to 1°C. Low clouds with poor visibility during this time of the year.

March to May and from September to November: Frequent morning fog occurs, disappearing slowly after sunrise.

5.36.F. ADDITIONAL INFORMATION

a) Arrival Procedures:

Preferred Runways for arrival, refer to Jeppesen charts.

Caution: Do not mistake Torrejon airfield (LETO) Runway 05/23 for Madrid Barajas (LEMD). Torrejon threshold Runway 05 is located approximately 2 NM Northeast of Madrid Barajas Runway 33R.

Note: Approach speed restriction apply, refer to Jeppesen charts

Note: Report as soon as possible the intention of missed approach maneuver for runways 18L/36R. This is required for ATC to restrict departure from runways 36L/15R.

Minimum Runway occupancy procedure is applicable, refer to Jeppesen charts.

Expect "Follow Me" vehicle to meet the aircraft before entering the apron for guidance to Terminal 1.

b) Departure Procedures:

Preferred Runways for departure, refer to Jeppesen charts.

Aircraft not ready to initiate take-off run immediately when cleared for take-off,

will have take-off clearance cancelled and will receive instructions to vacate the runway at the first available taxiway. Although the runway is temporarily occupied by other traffic, landing clearance may be issued to an arriving aircraft if the controller is satisfied that at the time the aircraft crosses the threshold of the runway in use prescribed separation from the preceding aircraft will exist.

When issuing a Landing Clearance based on Anticipated Separation, ATC shall issue clearance to the succeeding aircraft with the following instructions: “ (Call sign) BEHIND LANDING / DEPARTING (aircraft type) CLEARED TO LAND RUNWAY (number)”.


Pilots requesting or accepting to take-off from the intersections shall inform ATC accordingly on initial contact with Ground Control.


Recommendation for Departures:

- Report SID (name and number) on first contact with departure frequency.
- Strict adherence to speed limitations.
- Follow SIDs carefully to meet noise abatement procedures.


5.36.G. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
LEAL	8	ILS/VOR	10/28	3000	MAX
Alicante					
LEBL	8	VOR/ILS	02/20	2540	MAX
Barcelona		ILS/ILS	07L/25R	2922	MAX
		ILS/ILS	07R/25L	2660	MAX
LEV	7	VOR/ILS	12/30	2915	MAX
Valencia					
LEZL	7	VOR/ILS	09/27	3360	MAX
Seville					

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5.37. MANCHESTER (EGCC) - UNITED KINGDOM

Name of Airport : Manchester International

5.37.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	05L/23R	2588	MAX	
	ILS / VOR	05R/23L	2864	MAX	
D-ATIS			PDC / DCL		Noise Abatement Procedure
Yes			N/A		

5.37.B. GENERAL WARNING, CAUTIONS AND NOTES

Note: *The hard shoulders outboard of the runway side stripes have only 25% of the runways bearing strength and should not be used by aircraft during turning on the runway or when backtracking.*

5.37.C. TERRAIN

The airfield is located 7 NM to the South of the city centre and is extremely noise sensitive with an elevation of 257 feet. There is a line of hills 10 NM to the East running from North to South and hills to the North of the City; both of which contribute to the 3500 feet MSA. The terrain to the east influence Runway 06L departures.

Buildings on final approach to runway 23L and 23R are most significant obstacles. The city lies North with several high manmade structures.

5.37.D. AIR TRAFFIC CONTROL


Air Traffic Control is very good.

Delay messages transmitted to the crew by ATC should be interpreted as follows: "No Delay expected" means

- Do not anticipate being required to remain in a holding pattern longer than 20 minutes before commencing an approach.

When delay greater than 20 minutes

- The controller will pass Estimate Approach Time (EAT).

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Note: The term “Fuel emergency” has no status in ATC phraseology. Radio call prefixed with “MAYDAY” for distress or “PAN” for urgency will ensure priority handling.

Aircraft commencing a climb or descent in accordance with an ATC clearance should inform controller if they cannot maintain a minimum rate of climb or descent during the level change is less than 500ft per min. Applies to both enroute phase of flight and to terminal holding above transition altitude.

5.37.E. WEATHER

The weather is typical for the UK, Low Cloud, mist and fog during Autumn and Spring. Occasional Snow in winter, especially in **January**. Winds are generally down the runway, and in any case turbulence from the surrounding area is not a factor.

Gusty winds are common in Autumn and Spring, given the topography of the hills to the East and further the hills to the North, turbulence and convective clouds should be anticipated, closer on approach the buildings of Stockport cause much turbulence on short finals.

The winds are likely to shift markedly during the final stages of approach.

5.37.F. ARRIVAL PROCEDURES


Warning: Flocks of up to 100 racing pigeons may be encountered flying across the airfield below 100 ft during the racing season, April - September.

Warning: Pilots are warned when landing on Runway 23R in strong North westerly winds of the possibility of turbulence and large windshear effects.

Warning: During the ILS DME CAT 1 and CAT 3 approach on Runway 05L, RA fluctuations may occur due to Bollin Valley.

Caution: High visibility bright lights from golf driving range 1500 m / 0.8 NM left of threshold Runway 23R.

Caution: In addition to the GPWS risks contained in the Jeppesen Aircraft given extended routings whilst radar vectored for Runway 23L/R. Crew should note that there is a large Television Mast (2490 feet AMSL) at approximately 20 NM on the extended centreline. This will

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create a GPWS alert if it is overflown within the GPWS envelope.

There is a pronounced hump evident when landing on Runway 23L. Runway 23R has a strange profile, the first 1500 m is marginally uphill, there is a marked down slope thereafter which reduces towards the 05L threshold.

From the point of view of landing, if a touch down is not made before the start of the downslope, it is possible to 'chase' the slope in an attempt to make a smooth touchdown.

Expect the radio altimeters to show large height fluctuations when approaching to land on Runway 05L due to irregular terrain off the end of the runway.

5.37.G. GROUND MANEUVERING

De-icing takes place on aircraft stand 10-15 minutes prior to departure. Engines on - not permitted.

5.37.H. DEPARTURE PROCEDURES

When operating RWY23R single runway ops the final clearance limit issued by the Ground Movement Controller (121.850) will **always be the J4 stopbar**. The outbound aircraft will then be transferred to the Tower Controller for onward clearance. Outbound crews **MUST hold at J4** and await further clearance from the Tower Controller on 118.625.

Radar Tracking and noise monitoring is in progress, all departures track must be adhered to.

The Company will be fined for any deviation or noise alarm.

Caution: *Radar tracking and noise monitoring is in progress. All departure tracks must be adhered to. The Noise preferential routing NPR prescribe the horizontal flight path only. The procedure below will govern the vertical flight path for NPR routings.*


- **FMGC set-up for SID's with more than 30 degrees initial turn:**

A pre-selected speed of 185 kts shall be inserted in FMGC **Performance Climb Page**.

Thrust Reduction Altitude shall be 1000 feet AAL.

All Engine Acceleration Altitude shall be as per LPC Engine Out Acceleration Altitude "EO accl alt" (not 3000 AGL).

Operational : At acceleration altitude and passing F speed retract the Flaps to CONF1 and fly the pre-selected speed (185 kts). This configuration shall

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be maintained for the initial turn. Once the initial turn is completed accelerate and clean up on schedule.

- **FMGC set-up for SID's with less than 30 degrees initial turn:**

Thrust Reduction Altitude shall be 1000 feet AAL.

All Engine Acceleration Altitude shall be as per LPC Engine Out Acceleration Altitude "EO accl alt" (not 3000 AGL).

Note: *Pre-selecting a speed of 185 kts in the FMGC Climb Page will affect the fuel prediction since the entire climb calculation will be based on 185 kts. The difference in calculated fuel (OFP) and predicted fuel (FMGC) could be up to 900 kg. This effect should not mislead you to carry extra fuel.*

*The all Engine Acceleration Altitude is **not** 3000 feet or higher, since the SIDs out of UK airports are NPRs and not standard ICAO noise abatements.*

5.3.1 CUSTOMS, IMMIGRATION AND SECURITY

Crew may carry liquids, pastes or gels in their hold baggage. If liquids required to be carried in cabin baggage, follow the procedure set out below:

- 1) All liquids **MUST** be presented at the search point for examination;
- 2) Liquids containers must not exceed 100ml or equivalent;
 - Drinks
 - Containerized foodstuffs
 - Cosmetics / Toiletries
 - Non prescription medicines
- 3) Container (s) must be placed in a transparent resealable bag no larger than (8'x8');
- 4) Bag **MUST** be closed when presented at screening and all items must fit comfortably within it.

5.37.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft				
Location					319				
EGBB	9	ILS/ILS	15/33	2279	MAX				
Birmingham									
EGKK	9	NONE	08L/26R	2148	MAX				
London Gatwick		ILS/ILS	08R/26L	2766	MAX				
EGPF	8	ILS/ILS	05/23	2353	N/A				
Glasgow									
EGSS	7(Note)	ILS/ILS	04/22	3048	317/315	MAX	MAX	MAX	MAX
London Stansted									

Note: EGSS RFF upgrade to CAT 9 on request.

5.38. MASHHAD (OIMM) - IRAN

Name of Airport : Shahid Hashemi Najad International

5.38.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
8	VOR / ILS	13L/31R	3776	MAX
	VOR / VOR	13R/31L	3886	MAX

5.38.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: *Birds in vicinity of airport.*

Caution: *Strolling dogs observed on the movement area, caution advised.*

Note: *As instructed by the Iranian Authorities, the term Arabian Gulf shall not be used in/out bound flights of Iran. Correct terminology is PERSIAN GULF.*


Caution: *Parallel runway operations take place without notification. Crew is required to monitor both approach and tower frequencies. After landing runway 13L/31R, do not cross runway 13R/31L without ATC clearance.*

Note: On the basis of rules and regulations of I.R.Iran., entrance and/or export of Alcoholic Drinks, Gambling material and also Magazines, photos, film and snaps and those goods which is against religious and Islamic dignity is totally prohibited.

Note: Women by law must wear a headscarf in public

5.38.C. TERRAIN

The airfield is situated in a valley 1.5 NM East of Mashhad city and on the Northeast side of Iran with the Turkmenistan border 30 NM Northeast of the airfield. The airport elevation is 3270 feet. To the West and East of the airfield the ground rises to mountain ranges, which run in a Northwest direction. To the South of the airfield the terrain rises to 4253 feet within 5 NM. To the West the mountain range rises to 4950 feet within 10 NM and rises to 10850 feet within 20 NM. To the East the terrain rises to 6322 feet within 20 NM.

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5.38.D. AIR TRAFFIC CONTROL

The standard of ATC and English is average however can be poor at times.

- Start-Up Call 5-10mins before start-up clearance
 - A new ATC flight plan is required if aircraft fails to depart after two start-up clearances
 - ATC Flight Plan Valid for 60mins after filed EOBT
- Preferential Runway usage (ATC)
- Take-off RWY 13L/R
 - Landing RWY 31L/R

5.38.E. WEATHER

Mashhad is located in the Northern temperate region, and has a changing climate. The rainy season is mostly in **mid-December through late March. Summers**, the weather is dry and warm. **Winters**, it is rather cold.

5.38.F. ARRIVAL PROCEDURES

Runway 13L and 13R are not usable during 1830 - 0330 Local Time (1730 - 0230 UTC) except tail wind component is 10 kts or more.

Runway 13L and 13R approaches are steep. (FPA 4.5° for VOR-DME runway 13L and FPA 4.8° for VOR-DME runway 13R) which is up to 1200 ft/pm.

- In VMC request visual approach for 13L/R to reduce FPA.
- In IMC request runway 31L/R upto 10kts tail wind.

5.38.G. GROUND MANEUVERING

NIL

5.38.H. DEPARTURE PROCEDURES


Runway 31L and 31R are not usable during 1830 - 0330 Local Time (1730 - 0230 UTC) except tail wind component is 10 kts or more.

5.38.I. DESTINATION ALTERNATES


ICAO Code	RFF	IAP	Runway	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OIFM	8	VOR/ILS	08L/26R	4397	MAX
Esfahan		CIR/VOR	08R/26L	4397	MAX
OIIE	9	ILS / ILS	11L/29R	4198	MAX
Tehran Imam Khomeini		VOR/VOR	11R/29L	3660	MAX
OIKK	8	VOR/ILS	16/34	3785	MAX
Kerman (Note1)					
UTAA	7	ILS/ILS	12L/30R	3800	MAX
Ashgabat*					

* Runway 12R/30L Not Authorised

Note 1: Operating hours SR-1830 (SR-1730)

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5.39. MILAN (LIMC) - ITALY

Name of Airport: Milan Malpensa International

5.39.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	17L/35R	2977	MAX
	CIR / ILS	17R/35L	3515	MAX

5.39.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Birds in vicinity of airport.*

5.39.C. TERRAIN

Malpensa is the biggest airport of the Milano airport system, which also includes Linate and Bergamo. It is located 50 km Northwest of Milano city, that is linked with highway and railway.

The airport is located on the foot of Alps with an elevation of 767 feet. On the North side there are some obstacles which affect performance, both natural and artificial. On the western side there is a natural part, whilst on the East the helicopter manufacturer Augusta is based.

Milan Linate airfield is approximately 25 NM South East.

5.39.D. AIR TRAFFIC CONTROL


Air Traffic Control is generally good, however it can be a very busy area with aircraft being vectored between Malpensa and Linate airports. Many arrivals from the North are kept high due to terrain and departing traffic.

Preferential runway to assist emergency aircraft. ATC will expect runway 35R to be used in cases of emergency or in the case of radio a failure, unless other wise advised by ATC or published NOTAM.

5.39.E. WEATHER

June to September: Generally warm and fine, with possible thunderstorms.

September to November: Generally fine, with likely hood of fog starting from November. During periods of fog there are many uncommanded runway

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incursions, so be aware.

December to March: Persistent fog throughout the whole day can occur; heavy snowfalls can be expected.

April to May: Normally good weather with no particular weather phenomena.

5.39.F. ADDITIONAL INFORMATION

a) Arrival Procedures:

Normally runways in use are 35L and 35R; runways 17L and 17R are used only exceptionally in case of strong Southerly winds. Heavy aircraft will use 35L for landing, except for Air Traffic congestion, operational limitations on ground or meteorological condition.

Caution: *Southwest of the airfield there is the controlled military airport Cameri; the Eastern boundary of Cameri ATZ is parallel to the localizer path of the runways 35L and 35R.*

Caution: *Outside the airport in front of Terminal 1, there is a short grass runway, now used for ultra light sport activities (formerly the airfield of the manufacturer Caproni - Vizzola).*

Note: *There are many smaller operators and much private traffic in the area, flight crew shall be vigilant in utilizing all available means including a good lookout for visual collision.*

b) Departure Procedures:

During thunderstorm activity it may be advisable to avoid routing Northbound or even delay take off during more intense TS activity as these can be particularly severe.

Caution: *All runways have SIDs that share a common portion before deviating LEFT or RIGHT to the same beacon for transition to enroute structure. ATC has reported incidents where the incorrect SIDs has been flown, i.e. "LEFT TURN" instead of a "RIGHT TURN" was initiated. Crew are reminded of the following:*

- Note the assigned SID in ATC clearance;
- Ensure correct SID is selected in FMC;
- Correct Jeppesen navigation charts available for easy reference.


Note: The Load Sheet is prepared and printed as 'Edition 1' at Terminal 2, however the aircraft is handled at Terminal 1. Due to distance between Terminal 1 and 2, the Load Control Agent produces a duplicate copy of the same load sheet at the boarding gate in Terminal 1, which automatically prints as 'Edition 2'. By default setting, every other print command that is given, the system gives a different edition number for each copy that is generated individually. Crew members are advised to note that Load Sheets bearing subsequent edition numbers, are in fact identical.


Note: As per Milan Malpensa Airport, passenger cannot board during Aircraft refuelling unless Fire Brigade is called at a Cost.

The policy at Milan airport is to board passengers after refuelling, therefore all pilots are requested to pass the required fuel to engineer as soon as possible. The Station will fuel the aircraft to the minimum Flight Plan fuel before arrival of crew to the aircraft, but even few hundred kgs of fuel will take time and will delay the boarding.


5.39.G. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
LIMF	9	CIR/ILS	18/36	2575	MAX
Torino					
LIMJ	8	CIR/ILS	11/29	2765	MAX
Genoa					
LIML	8	VOR/ILS	18L/36R	2442	MAX
Milan - Linate					
LIPQ	8	CIR/ILS	09/27	2800	MAX
Trieste					
LIRF	9	ILS/ILS	16L/34R	3900	MAX
Rome - Fiumicino		ILS/ILS	16R/34L	3579	MAX
		ILS/ILS	16C/34C	3000	MAX
		VOR/ILS	07/25	2893	MAX

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5.40. MINSK (UMMS) - BELARUS

Name of Airport : Minsk 2

5.40.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
8	ILS / ILS	13/31	3641	MAX
	ILS / ILS	31/13	3641	MAX

5.40.B. GENERAL WARNING, CAUTIONS AND NOTES

TBN

5.40.C. TERRAIN

TBN

5.40.D. AIR TRAFFIC CONTROL

Jeppesen “ Radar Minimum Altitude Charts 10-1R/1R1” and “Area terminal Chart” is included in the Destination trip kit.

5.40.E. WEATHER

TBN

5.40.F. ADDITIONAL INFORMATION

a) Arrival Procedures:


TBN

b) Departure Procedures:

TBN

5.40.G.
DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
UMGG	6	ILS/ILS	10/28	2569	MAX
Homiel					
EYVI	7	ILS/ILS	02/20	2515	MAX
Vilnius					

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5.41. MOSCOW (UDD) - RUSSIA

Name of Airport : Domodedovo International

5.41.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	NONE	14C/32C	2600	MAX
	ILS / ILS	14L/32R	3794	MAX
	ILS / ILS	14R/32L	3500	MAX

5.41.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: *Airport to be used with caution in winter during ice conditions.*

Caution: *Numerous vertical conversions are required.*


Caution: *Extra vigilance and monitoring is required at all times.*

Note: *Refer to Operations Manual, Part A: General/Basic, Chapter 8.2.1.7.2 for fuel freezing point determination and fuel mixture if any.*

Note: *Refer to Operations Manual, Part A: General/Basic, Chapter 8.3.8.11 (Operations on Slippery surfaces) for all information about runway friction, friction coefficient, braking action, contaminants and guidelines for take-off and landing.*

Note: *GHA frequency not available. Urgent message can be passed via Contact "Ground Control (119.0)".*

Note: *Fuel remaining in outer tanks should be transferred to inner tanks to avoid unnecessary de-icing from upper side of wings. Refer to FCOM 3.04.91*

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5.41.C. TERRAIN

Moscow Domodedovo (pronounced 'Domoshedovo') airport is positioned within a wooded suburb 23 NM Southeast of Moscow Central. The airport elevation is 587 feet. There is no significant terrain in the immediate area but there are numerous military and civilian airfields in the vicinity. Moscow Bykovo 13 NM North-Northeast, Ramenskoye 12 NM Northeast, Podolsk/Dubrovitsky 14 NM West, Moscow Ostafyevo 14 NM Northwest and Moscow Vnukovo 24 NM Northwest.

Caution: *Do not mistake illuminated highway leading to the airport with the runways.*

5.41.D. AIR TRAFFIC CONTROL

Caution: *Casual or informal language may reduce safety. Use simple and standard phraseology. Controllers speak reasonable English, but careful with special requests to avoid misunderstanding.*

Caution: *On departure, Radar vectors may take aircraft into prohibited areas.*


Careful attention is needed both on arrival and departure to ensure the correct altimeter setting is used: ATC uses the term "HEIGHT" (QFE) but do not usually use the term "Flight Level" (1013.2). QNH may be obtained on the ATIS and/or HF broadcasts.

Within the Russian Federation ATC and MET use metric units. Distances are measured in metres (m) and kilometer (km), the wind velocity is in m/sec and pressure indications may be provided in mmHg (millimetres of Mercury) or hPa. It is Fly Georgia's policy to fly QNH at all times below transition altitude, QFE shall not be used at any time on any primary altimeters.

QNH should be available at all times from ATC going to UDD, if unable to obtain QNH you can convert QFE into QNH by adding 22 hPa to the current UDD's QFE. The value of the field elevation translated into hPa as follow :

- Each 27.5 feet = 1 hPa
- UDD: $587 / 27.5 =$ approximately 22 hPa

Note: *Airfield (Runway) elevation in hPa is available on Jeppesen approach plates.*

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5.41.D. i) Flight above Transition Level/Transition Altitude (TL/TA)

Above TL/TA, clearances are given in metres. Correct altimetry may be achieved by selection of STD and; METERIC ALT pushbutton (for A320 Family).

5.41.D. ii) Flight below Transition Level/Transition Altitude (TL/TA)

Below TL/TA clearances are given in metres - QFE (height above airport). To ensure correct operation of lateral and vertical navigation and to remain consistent, a conversion from metres - QFE to feet - QNH must be performed by crew.

When cleared below the **Transition Level** all the aircraft altimeters shall be referenced to feet rather than metres.

5.41.E. WEATHER

The climate is continental with relatively warm, humid summers with mean maximum temperatures above +28° C during **July to September**. Winter season is long and cold with mean minimum temperature of -25°C in **January to February**.

Most weather activity consists of CBs or squalls. Occasionally, morning fog occurs during winter months but usually dissipates by mid-morning.


Occasional late afternoon thunderstorms occur during **May to August**.

Prevailing winds are westerly and at times quite strong. Below minima weather is not common.

5.41.F. ADDITIONAL INFORMATION

a) Arrival Procedures:

STAR's are used, followed by radar to final approach. Descent clearance, which may be delayed, will be given by radar and may not be consistent with the STAR. **The radar controller may not give the last turn onto the ILS LLZ, make this turn using bearings from locators without further instructions.**

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Clearance to land is given after crews have reported Landing Gear down.

Runways with ILS approaches have two (2) missed approach procedures published, "Standard" and "In case of Lost Communication". Due limitation in FMS NAVDB, only "Standard" missed approach procedure available.

b) Departure Procedures:

Note: *Fuel uplift is to be written in the Crew GD.*

Request departure clearance as early as possible (prior to Taxi if possible).

ATC may assign low height after take-off, possibly below thrust reduction/acceleration height.

Expect the clearances as "Climb 900 m on Runway heading, passing 200m contact radar 127.7.

Convert any ATC clearances in metres (QFE / FL) to feet (QNH / FL), using appropriate conversion table provided above, then place the appropriate converted feet value in the FCU.

5.41.G. CUSTOMS AND IMMIGRATION


Visa for Russia **MUST** be in the current passport of a crewmember. If a passport has been renewed, the old visa automatically becomes invalid, even though it has not expired. Ensure Visa is transferred to current passport.


5.41.H. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EETN	7	ILS/ILS	08/26	2820	MAX
Tallinn					
EFHK	9	ILS/ILS	04R/22L	3200	MAX
Helsinki Van- taa		ILS/ILS	04L/22R	3000	MAX
		ILS/VOR	15/33	2901	MAX
EVRA	8	ILS/ILS	18/36	2550	MAX
Riga					
EYVI	7	ILS/ILS	02/20	2500	MAX
Vilnius					
ULLI	8	ILS/ILS	10L/28R	3397	MAX
St. Petersburg		ILS/ILS	10R/28L	3780	MAX/87
UMMS	8	ILS/ILS	13/31	3640	MAX/82
Minsk					
UUEE	8	ILS/ILS	07L/25R	3550	MAX
Moscow Sheremetyevo (Note 1)		ILS/ILS	07R/25L	3700	MAX
UUWW	8	ILS/ILS	01/19	3060	MAX/93
Moscow – Vnukovo (Note 2)		ILS/ILS	06/24	3000	63/61


Note 1: First Company preferred alternate.

Note 2: Second Company preferred alternate.

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5.42. MUMBAI (VABB) - INDIA

Name of Airport : Chatrapati Shivaji International

5.42.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	09/27	2963	MAX
	ILS / VOR	14/32	2517	MAX

5.42.A. i) Curfew / Slot Restrictions

NIL

5.42.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: Juhu airport is 1.9 NM northwest and has a Runway 08 which has been mistaken for Runway 09 at Mumbai

Due to extensive light aircraft and helicopter activity at Juhu, a sharp look out should be maintained at all times.


Caution: Birds in vicinity of airport.

Note: All turns must be made on the runway properly avoiding shoulders.

Note: People wandering onto runways and taxiways during the day and night.

5.42.C. TERRAIN

Airfield located 8 NM Northeast of Mumbai (Bombay) and 2 NM from the coast with an elevation of 27 feet. 40 NM to the East are the Western Ghat Mountains which reach a maximum of 5400 feet AMSL. Hills lie to the North and East within 10 NM, the highest being nearly 1550 feet AMSL at 8 NM North Northeast. Immediately East of the aerodrome, in the vicinity of Runway 27 MM, there are low hills, which have been levelled to their present heights of around 200 feet above airfield elevation. At range 3.5 NM on the approach to Runway 32 and just left of centreline is a hill 1050 feet and obstructions to nearly 1074 feet AMSL. There is a mast to nearly 1000 feet AMSL 5.5 NM South Southwest. On the approach to Runway 27 there are hills and obstructions to nearly 750 feet AMSL

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1 NM right of the centre line and 2 NM short of the threshold.

Pilots are advised to make full use of Navigation Aids and Instrument approach plates and procedures even in VMC conditions.

Caution: *High Terrain on take-off runway 09 and 14.*

5.42.D. AIR TRAFFIC CONTROL

The standard of ATC is average. English at times is barely adequate requiring terminology to be kept simple.

5.42.E. WEATHER

Hazy all year round due to smoke.

March to early June is the hot season ending with the possibility of thunderstorms known as

‘Elephantas’ late in the season (The name ‘Elephantas’ comes from Elephanta island on the eastern side of the Mumbai harbour. The storm usually comes from this direction). The Elephantas can be prolonged and severe.

Mid June to September is the period of Southwest Monsoon. The onset and withdrawal of the monsoon is generally marked by several thunderstorms and squalls. The monsoon generally break over Mumbai about first week of June. Heavy rain and thunderstorms seem to occur almost continuously during this period. Hazard like crosswind conditions exceeding operational limits, poor braking actions very low visibility and runway contamination prevail during this period.


Warning: *June/July are months heavy rain accompanied by squally winds. Hazards like crosswind conditions exceeding operational limits, poor braking action, very low visibility and runway contamination due to flooding prevail in this season.*

October to November, apart from the Elephantas as the south-west monsoon withdraws the weather is mainly fair. Winds are mainly north easterly to westerly.

December to February is the Northeast Monsoon. This is a season of fair weather with land- sea breezes. February can be expected to be hazy with the possibility of fog.

5.42.F. ARRIVAL PROCEDURES

On approach Runway 27 in low visibility, confusion may exist between Runway 27 and parallel taxiway.

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The ILS on Runway 27 has a 3.3° glideslope, therefore the glideslope must be intercept with at least F-speed. The ILS may be unreliable during heavy rain.

The VOR is liable to scalloping up to 6° in the northwest sector and up to 3° in the southeast sector.

Runway 09/27 is slow to drain after heavy rain and aquaplaning is a possibility.

Warning: *There are two ridges that may triggers GPWS warnings, the most significant is on Runway 27 centerline at 18 to 24 miles.*

5.42.G. GROUND MANEUVERING

Caution: *When taxing on taxiway D be vigilant for aircrafts holding on taxiways B4 , C or J.*

Caution: *Do not over-speed while taxing on aprons 'C' , 'H' and taxiway F.*

Crew Feedback : *Exercise Caution when coming onto stand as the visual stoppage system can at times be difficult to read.*


5.42.H. DEPARTURE PROCEDURES

Runway 09/27 is extremely rough and the aircraft configuration giving the lowest possible rotation speed should be used without compromising performance.


Note: *The Terminal 2 International apron is not visible from the control tower, awareness and good crew co-ordination is required.*

5.42.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OPKC	9	NON / ILS	07L/25R	3200	MAX
Karachi		NON / ILS	07R/25L	3400	MAX
VAAH	9	VOR / ILS	05/23	3505	MAX
Ahmedabad					
VANP	8	VOR / ILS	14/32	3200	MAX
Nagpur					
VOBL	9	ILS / ILS	09/27	4000	MAX
Bangalore					
VOHS	10	ILS / ILS	09/27	4260	MAX
Hyderabad					
VOMM	9	ILS / ILS	07/25	3658	MAX
Chennai					

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5.43. MUNICH (EDDM) - GERMANY

Name of Airport: Franz Josef Strauss International

5.43.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	08L/26R	4000	MAX
	ILS / ILS	08R/26L	4000	MAX
D - ATIS		PDC / DCL		Noise Abatement Procedure
Yes		DCL (See Jeppesen briefing pages)		See departure section of this brief & Jeppesen text manual, ATC pages for Germany

5.43.B. GENERAL WARNING, CAUTION AND NOTES

Caution: Runway 08L/26R, 08R/26L - DME does not read ZERO at threshold due DME/ ILS not being co-located.

Caution: Birds in vicinity of airport.

Caution: Runways might be slippery when wet.


Note: Taxing aircraft should not deviate from centerline markings and lighting, except when advised by the control unit.

5.43.C. TERRAIN

The airport is located 16 NM North East from the city centre with an elevation of 1487 feet. Munich airport is centrally located in hilly lowlands with an average elevation of around 1500 feet MSL. This large basin is surrounded by hill ridges with elevations ranging between 2000 feet MSL and 5000 feet MSL to the north, east and west. The Alps, with elevations exceeding 10,000 feet MSL form the Southern boundary of this area.

5.43.D. AIR TRAFFIC CONTROL

Air Traffic control is generally very good.

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5.43.E. WEATHER

The airport features typical mid-latitude weather patterns for most of the year. Variable weather predominates, caused by low-pressure areas and their associated systems.

June to September: Generally warm and fine, with a chance of thunderstorms during this period.

September to November: Weather still generally fine with the probability of fog as the season progresses, along with passing weather systems bringing rain.

December to March: When the associated warm air is located above a shallow layer of moist and cold air, fog or low stratus clouds can persist for weeks. Fog and snow is common throughout this period.

September until April: Fog is a common and will form throughout the night time hours and often cause CAT 3 conditions at sunrise, persisting late morning. As the fog layer may extend up to 1500 feet AGL, dissipation during the short day light period in winter is uncommon, but often conditions improve to CAT 1 after around 1100 local time.

5.43.F. ARRIVAL PROCEDURES

Noise Abatement procedures as per the following: Leave the initial approach fix at 210kts \pm 10kts, maintain until 12 NM from touchdown. Reduce speed to 160 kts \pm 10 kts using an intermediate flap setting with landing gear up. Intercept glide path at not lower than 3000 feet AAL. Lower landing gear, set flaps for landing and establish final approach speed shortly before or over Outer Marker.

5.43.G. GROUND MANEUVERING

Nil


5.43.H. DEPARTURE PROCEDURES

Noise abatement procedures are as follows, at 1500 feet AGL:


- Reduce thrust to climb thrust;
- Accelerate while climbing and retract flap/slat on schedule;
- Transition to normal en-route climb speed.

5.43.I. DESTINATION ALTERNATES

ICAO	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EDDF	10	ILS/ILS	07L/25R	4000	MAX
Frankfurt-Main		ILS/ILS	07R/25L	4000	MAX
EDDN	8	ILS/ILS	10/28	2700	MAX
Nurnberg					
EDDS	10	ILS/ILS	07/25	3045	MAX
Stuttgart					
LOWW	9	ILS/ILS	11/29	3500	MAX
Vienna		ILS/ILS	16/34	3600	MAX

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5.44. MUSCAT (OOMS) - OMAN

Name of Airport : Seeb International

5.44.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	08/26	3165	MAX

5.44.B. GENERAL WARNING, CAUTION AND NOTES

Caution: *Large solitary predatory birds (eagles, vultures ... etc) present a hazard at vicinity of the airport.*

5.44.C. TERRAIN

The airport is located on the coast 17 NM west of Muscat with an elevation of 48 feet. There is high terrain up to 8180 feet to the South of the extended runway centrelines which push the 25 NM sector MSA up to 9000 feet.

5.44.D. AIR TRAFFIC CONTROL

The Air Traffic Control is generally very good.

5.44.E. WEATHER

The weather depends on the direction of the wind, for the most part the visibility is good with cloudless skies. When the wind comes from the South East during winter months mist will form.

The rainy season on the South coast is between **June to September** whilst in the mountains and lowlands of the North rain may fall during any month. Generally rainfall is greater in the Northern mountains than the rest of the country. On the coast temperatures and humidity are high during the year but especially between **May to September** when it is at its hottest. Inland temperatures are even higher although more bearable by lower humidity Early morning fog likely **January to March**.

Dust Haze during the summer months with July the worst month; dust storms a possibility. Winds mainly Southeasterly during summer and Northwesterly during winter. Thunderstorms more frequent over the mountains to the West than over the airfield.

5.44.F. ADDITIONAL INFORMATION

a) Arrival Procedures:

Caution: Helicopter activity around the airfield.

b) Departure Procedures:

NIL

5.44.G. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OMAA	9	ILS/ILS	13R/31L	4100	MAX
Abu Dhabi		ILS/ILS	13L/31R	4100	MAX
OMAL	9	ILS/VOR	01/19	4000	MAX
Al Ain					
OMDB	10	ILS/ILS	12L/30R	3600	MAX
Dubai		ILS/ILS	12R/30L	3880	MAX
OTBD	9	ILS/ILS	16/34	3772	MAX
Doha					

5.45. PARIS (LFPG) - FRANCE

Name of Airport : Charles-De-Gaulle International

5.45.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	08L/26R	3615	MAX	
	ILS / ILS	08R/26L	2700	MAX	
	ILS / ILS	09L/27R	2700	MAX	
	ILS / ILS	09R/27L	3600	MAX	
D - ATIS			PDC / DCL		Noise Abatement Procedure
Yes			DCL		See Jeppesen Briefing Pages

5.45.A. i) Curfew/Slot Limitation

To operate during “night curfew”, prior approval required from Airport

Authority. Published Night Curfew time in local Time

- 00:30 – 05:29 (Arrival)
- 00:00 – 04:59 (Departure)

5.45.B. GENERAL WARNING, CAUTION AND NOTES


Caution: *Birds in vicinity of airport.*

Caution: *Due to runway incursions occurrences since the twin parallel runway 09/27 setting up, pilots operating to and from CDG are reminded to reinforce their vigilance.*

5.45.C. TERRAIN

The airport is located to the Northeast of Paris and is sometimes referred as ROISSY by ATC.

The airport has four wide spaced parallel runways allowing simultaneous arrivals and departures. The airport has an elevation of 392 feet.

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5.45.D. AIR TRAFFIC CONTROL

Air Traffic Control is generally very good. Use standard phraseology. Extensive use of the French language is made by ATC.

5.45.E. WEATHER

The airport area generally suffers from fog, mist, low stratus and icing conditions during the Winter and can be below limits for long time.

5.45.F. ADDITIONAL INFORMATION

a) Arrival Procedures:

The outer runways 08R/26L and 09L/27R are the preferred runways for arrivals. Both runways are less than 9000 feet long.

Rushed Approaches do occur. Expect reduced track miles and delay in descent clearance. During simultaneous parallel approaches and triple parallel approaches, in conjunction with Paris - Le Bourget, ATC request adherence to published profiles, in particular ILS intercept altitudes.

b) Departure Procedures:

The inner runways 08L/26R and 09R/27L however, are the preferred runways for departures.

Simultaneous parallel departures are conducted on all runways. Adhere strictly to the published initial climb.

Note: *Noise Abatement procedures are applicable.*

5.45.G. DESTINATION ALTERNATES


ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EBBR	9	ILS/ILS	02/20	2767	MAX
Brussels (Note 2)		VOR/ILS	07L/25R	3338	MAX
		VOR/ILS	07R/25L	3089	MAX
EHAM	9	CIR/ILS	18L/36R	2825	MAX
Amsterdam		ILS/CIR	18R/36L	3530	MAX
		ILS/ILS	18C/36C	2850	MAX
		VOR/ILS	09/27	3363	MAX
		ILS/VOR	06/24	3250	MAX
EGKK	9	NONE	08L/26R	2148	MAX
London Gatwick		ILS/ILS	08R/26L	2766	MAX
EGSS	8 (Note 4)	ILS/ILS	04/22	3048	MAX
London Stansted					
LFPO*	9	ILS/ILS	06/24	3350	MAX
Paris - Orly (Note 1)		VOR/ILS	08/26	2885	MAX
		ILS/CIR	02/20	2400	MAX


Note 1: First Company preferred alternate.

Note 2: Second Company preferred alternate.

Note 3: LFPO* Arrivals - 06:20 to 23:29hrs LT; Departures - 06:00-23:19hrs LT. Outside these hours airport is not available.

Note 4: RFF upgrade to CAT 9 on request.

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5.46. PESHAWAR (OPPS) - PAKISTAN

Name of Airport : Peshawar International

5.46.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	VOR / VOR	17/35	2743	MAX

5.46.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: *A high level of bird activity exists.*

Caution: *There are turning pads on both thresholds Runways 17 and 35.
Direction of Turn is marked, follow the yellow lines.*

*Peshawar (Aerodrome layout) is incorrect, as is the AIP layout plate.
On the plate the runway is marked at both ends with a STOPWAY.
However, these are not stopways because they are not capable of bearing
the aircraft weight without damage to the gear or the surface. These areas
are in fact over-runs (for military use only). RTOW charts consider this.*

- 1) Do not cross the arrester barriers at each threshold.*
- 2) Turn only on the concrete threshold.*

Note: *Railway tracks cross the runway near the touchdown point on Runway 35.*


Note: *There may be some slight delays due to military activity.*

5.46.C. TERRAIN

Peshawar is situated in the Southwest of a rich farming basin, surrounded by high terrain in all quadrants with an elevation of 1211 feet.

Warning: *Very high terrain surrounds the field, with the closest threats being to the West and Southwest.*

The airport is located just to the west of the main Peshawar City center and is a joint user (civil/military) facility. This single runway airfield is aligned roughly

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North/South and is very well camouflaged amongst a wooded area.

Expect military aviation activity from early in the morning until about 1400 hrs Local Time. from Monday to Saturday. Just to the west of the airfield lies the border between Pakistan and Afghanistan (famed Khyber Pass area).

This rugged mountainous terrain is inhabited by “Tribal People” who have been known in the past to shoot at anything. Their weapons vary from rifles to rockets. As a result, a “no-fly zone” has been established West of the runway.

5.46.D. AIR TRAFFIC CONTROL

The standard of ATC control varies, and is sometimes poor. High situational awareness is required.

Peshawar is a joint military/civil airfield and the ATC control is military. Controllers are used to giving close control to fighters, and do not have great experience in the ways of international civil air traffic control, therefore ATC will be giving clearances for each segment.

Controllers operate both VHF and UHF. Not all traffic will be on the VHF tower frequency. Remember it is a Military controlled airfield and terminal area 10NM up to 12,000 feet. Above this level you will be controlled by Cherat Approach.

ATC allows 11 minutes for each aircraft to do the full approach for Runway 35.

Aircraft are expected to call when each segment of the complicated approach procedure is complete. (e.g. “VOR outbound”, “Turning Inbound” etc...)


There is no snow or ice removal equipment available.

Caution: *Excessive ATC clearances can cause very high workloads. The controllers seem to clear the aircraft to each altitude for each segment throughout the approach.*

5.46.E. WEATHER

December to March: Weather systems move through from West to East. Snowfall on the mountains with frost in the mornings at the airfield. Winds are calm and temperatures go down to near freezing level. Snow on the runway is rare.

April to June: Temperatures start to rise and pressure falls. Associated unstable weather phenomena prevail (Thunderstorms, dust storms and hail.) April is the

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wettest month with June giving rise to dust storms and thick haze. Temperatures can get into the high Forties.

July to September: Monsoon Seasons, widespread regional rain and associated thunderstorms.

October to November: Mostly fair weather.

5.46.F. ARRIVAL PROCEDURE

Caution: *Cherat Approach controllers will sometimes clear aircraft to **Flight Levels below transition level** as they have no information on actual QNH.*

Runway 35 is the preferred runway for landing, perform full VOR DME runway 35 approach even in VMC conditions, using NAV mode with FPA or V/S.

Caution: *The runway has poor lighting. Therefore, during reduced visibility or night operations, it is essential that the **full instrument approach** be flown. Do not short cut the approach off the initial inbound leg (VOR/DME Runway 35) once becoming visual. The temptation to break-off and manoeuvre visual will result in loss of runway contact (because the runway is so well camouflaged).*

The 4 DME fix at 2500 feet gives a 3° slope for Runway 35. There are threshold strobes installed for Runway 35, these will only be turned on if requested. Runway 35 fitted with a PAPI 3°.

If a VOR/DME approach is made for Runway 17, the Runway will be visual only when the aircraft is established on a 3° approach profile on final.

Warning: *Due to hostile territory in close proximity to the airfield, no circling west of the Runway is allowed.*

Caution: *Visual approaches are not permitted at night.*

5.46.G. GROUND MANEUVERING

Taxiway B and C authorized.

5.46.H. DEPARTURE PROCEDURE

Caution: *Due to the presence of arrester barrier, the airport authority requires the aircraft to be 500 feet down the runway before T/O thrust*


is applied. RTOW Charts consider this.

Expect a departure towards HANGU. Runway 17 is the preferred runway for departure. Due to high climb performance requirement aircraft has to be at or above 10,000 feet by 14 DME PS, departing towards HANGU. Especially if departing of Runway 17. High ground 8700 feet at 18 DME PS. The A319 will only just make the restriction at HANGU at high weights using a selected speed below 250 kts.


If there is any doubt about the aircraft performance meeting the above requirement, it is recommended to request a departure towards JABAR (145° radial PS) or request a climbing orbit over the VOR (holding pattern 340° inbound right turn).

5.46.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OPKC	9	NON/ILS	07L/25R	3200	MAX
Karachi (Note1)		NON/ILS	07R/25L	3400	MAX
OPLA	9	VOR/VOR	18R/36L	2743	MAX
Lahore		VOR/ILS	18L/36R	3360	MAX
OPNH	8	VOR/VOR	02/20	2743	MAX
Nawabshah (Note2)					
OPRN	9	CIR/ILS	12/30	2743	MAX
Islamabad (Note3)					
VIDP	9	VOR/ILS	09/27	2661	MAX
Delhi		ILS/ILS	10/28	3810	MAX
		ILS/ILS	11/29	2820	MAX

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5.47. RIYADH (OERK) - SAUDIA ARABIA

Name of Airport : King Khalid International

5.47.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	15L/33R	4205	MAX	
	ILS / ILS	15R/33L	4205	MAX	
D – ATIS			PDC / DCL		Noise Abatement Procedure
Yes			NIL		NIL

5.47.B. GENERAL WARNING, CAUTION AND NOTES

Note: 180° turns on runways are prohibited.

5.47.C. TERRAIN


The airfield is situated 15 NM North of the city of Riyadh on a high flat plain with an elevation of 2049 feet.

5.47.D. AIR TRAFFIC CONTROL

The standard of ATC is average. Use standard phraseology.

ATIS 126.4 is available.

Radio communication failure See special procedure, Jeppesen Text Manual, Emergency. "Saudi Arabia".

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5.47.E. WEATHER

Prevailing wind Northerly but Easterly winds frequent during the winter months.

January to February: Early morning fog occurs.

March to May: Possibility of Dust storms.

5.47.F. ADDITIONAL INFORMATION

a) Arrival Procedures:


NIL

b) Departure Procedures:

Expect either “Charlie” or “Delta” radar departures.

5.47.G. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OBBI	10	ILS/ILS	12L/30R	3657	MAX
Bahrain		NONE	12R/30L	2222	MAX
OEDF	9	<i>ILS/ILS</i>	<i>16L/34R</i>	<i>4000</i>	<i>MAX</i>
Dammam		<i>ILS/ILS</i>	<i>16R/34L</i>	<i>4000</i>	<i>MAX</i>
OEJN	9	ILS/ILS	16C/34C	3303	MAX
Jeddah		ILS/ILS	16L/34R	3690	MAX
		ILS/ILS	16R/34L	3803	MAX
OEMA	9	ILS/ILS	17/35	3300	MAX
Madinah		ILS/ILS	18/36	3050	MAX
OTBD	9	ILS/ILS	16/34	3772	MAX
Doha					

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5.48. ROME (LIRF) - ITALY

Name of Airport : Fiumicino International

5.48.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	16L/34R	3900	MAX
	ILS / ILS	16R/34L	3579	MAX
	ILS / ILS	16C/34C	3000	MAX
	VOR / ILS	07/25	2893	MAX

5.48.B. GENERAL WARNING, CAUTION AND NOTES

Caution1: *Birds in vicinity of airport.*

State restriction: RWY16C/34C - In presence of contamination and/or heavy rain,
1.) Take- off and Landing is not authorized,
2.) Landing not allowed with cross wind component exceeding 15kts.

5.48.C. TERRAIN


The airfield is located on the coast around 12 NM Southwest of Rome city with an elevation of 14 feet. Terrain is not a significant factor although there is high ground to the North and East towards the extremities of the 25 NM MSA.

5.48.D. AIR TRAFFIC CONTROL

Radio Communication Failure, special state procedures apply for failures on arrival when Parallel ILS approaches are being conducted. See Jeppesen textual manual, Emergency Section, Italy for details.

5.48.E. WEATHER

The climate in Rome is a mediterranean and generally pleasant; warm and sunny in spring and autumn. November can bring rain to Rome and winters are generally mild, though cold spells can occur.

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5.48.F. ARRIVAL PROCEDURES:

Caution: Due to mirrors for solar power station, pilots may occasionally experience sunbeams reflected upward.

Caution: Wet Runway. After heavy rain showers, areas of standing water may exist, particularly on Runway 16L. To avoid hydroplaning incidents, ATC (Tower) should be asked for the latest runway surface conditions and braking action.

Caution: Aircraft Landing on Runway 16R may see traffic taking off from Runway 25 and crossing through the centre line of Runway 16R. Expect late landing clearance.

Caution: Parking stand 622 is upslope. Apply adequate ground speed to enable proper entry into stand.

5.48.G. GROUND MANEUVERING


RWY16C/34C - Is actually identified as TWY D when runway not activated. A notam, usually 48hrs in advance is published when RWY16C/34C is activated. An RFF vehicle must be present during refueling with passengers on board. Request to be made via apron management if necessary.

5.48.H. DEPARTURE PROCEDURES R/T FOR PUSH BACK PROCEDURES

	Procedure	Phraseology	Request to	Frequency
1	Prior to Start Up	"Ready to Move"	Apron / Ramp	121.725
2	ATC and Start Up Clearance	-	FIUME Planning	121.8 (0600-2200) 121.9 (2200-0600)
3	Push back and Taxi Clearance	-	Ground	121.9

5.48.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
					319
LIMC	9	ILS/ILS	17L/35R	2977	MAX
Milan Malpensa		CIR/ILS	17R/35L	3515	MAX
LIMJ	8	CIR/ILS	11/29	2765	MAX
Genoa					
LIML	8	VOR/ILS	18L/36R	2442	MAX
Milan Linate					
LIRA	8	ILS/CIR	15/33	2207	MAX
Rome Ciampiano					

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5.49. SHIRAZ (OISS), IRAN

Name of Airport : Shahid Dastghaib International

5.3.2 AIRFIELD DATA:

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
8	ILS / ILS	11L/29R	4364	MAX
	VOR / VOR	11R/29L	4283	MAX


5.49.A. i) Warnings, Cautions and Notes:

- Warning:** *There is very high ground towards the North, Northwest and to the South. However the peaks generally extend above the level of haze and dust that can prevail.*
- Warning:** *Attention must be paid to the safety heights and the hazards of the surrounding terrain.*
- Caution:** *Birds in vicinity of the airport. Additionally, stray dogs have been observed in the vicinity of the aerodrome and movement areas.*
- Caution:** *Braking action can reduce rapidly from good to poor if the runway is wet.*
- Caution:** *Refer to the TLR (Aerodata) to confirm any limitations. Check for landing weight limitations before deciding on tankering.*
- Note:** *Pilots must be Self-Briefed and one pilot preferably should have visited before operations.*

5.49.B. TERRAIN:

The airfield is surrounded by mountainous terrain with spot heights of 8731 feet 8 NM North, 9837 feet 14 NM Northwest, 9977 feet 8 NM West and 9485 feet 9 NM South of the airfield.

Closer in at 4 NM North of the field a ridge rises to 6757 feet AMSL and 3 NM to the Southwest up to 7110 feet AMSL.

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5.49.C. AIR TRAFFIC CONTROL:

The standard of ATC is satisfactory. Use standard and simple phraseology.

5.49.D. GROUND FACILITIES:

Standard. If ground power is required on arrival, confirm prior to departure if GPU is available in Shiraz.

5.49.E. WEATHER:

Summer is mostly fine apart from light dust haze at times. During winter the presence of CB's in the vicinity of the airfield and moderate rain can be expected along with significant snow falls.

5.49.F. ARRIVAL PROCEDURES:

The usual clearance is Radar Vectors for RWY 29L ILS-2. Self position to final fix under radar is normally granted if no other traffic departing or arriving.

Alternatively, DME ARC RWY 29L can be expected for arrival. Inserting 13000 ft and S speed at the beginning of the ARC should take care of the decent profile at max landing weight.

Waypoint crossing height restrictions create steep decent paths and radar can give shortcut vectors that will quickly put the aircraft high and fast. Configure flaps and reduce speed early in the approach to avoid being caught out.

High missed approach climb gradient, refer to Chapter 5 for Missed Approach Climb Calculations.

5.49.F. i) Company Approach Procedures:

None.

5.49.G. DEPARTURE PROCEDURES:

RWY 11L is available for departure on request, under radar you can depart from RWY 11 and climb to 9000feet before turning right on track, maintaining green dot speed is recommended until passing MSA 11,500 feet. Refer to TLR for emergency turns.

The terrain immediately after take-off to the South-east poses no problem but emergency turns have been introduced for RWYs 29L/29R to avoid the


surrounding mountains in the event of an engine failure. The turns are to the right to join the VOR holding pattern, and climb to MSA. Maximum IAS until overhead SYZ VOR for all 29L/29R SIDs is 230 kts.

5.49.H. ADDITIONAL INFORMATION:

None.

5.49.I. ALTERNATES:

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OIFM	8	VOR/ILS	08L/26R	4397	MAX
Esfahan		CIR/VOR	08R/26L	4397	MAX
OIII	9	VOR/VOR	11L/29R	3992	MAX
Tehran Mehrabad		VOR/ILS	11R/29L	4038	MAX
OIMM	8	VOR/ILS	13L/31R	3776	MAX
Mashhad		VOR/VOR	13R/31L	3886	MAX
OIBB	8	CIR/ILS	13R/31L	4469	MAX
Bushher		CIR/VOR	13L31R	4469	MAX

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5.50. STOCKHOLM (ESSA) - SWEDEN

Name of Airport : ARLANDA

5.50.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	VOR/ILS	08/26	2500	MAX
	ILS/ILS	01L/19R	3300	MAX
	ILS/ILS	01R/19L	2500	MAX

5.50.B. TERRAIN


Flat terrain. Highest obstacle of 2200 ft in southeast quadrant

5.50.C. AIR TRAFFIC CONTROL

Radar service provided. Parallel runway operation in use. During LVP operations traffic flow is reduced by 65%, resulting in Traffic flow restrictions being issued.

- Communication Failure with Destination Stockholm Arlanda:

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5.50.D. WEATHER

Stockholm area experiences a moderate climate in both summer and winter. Winters are dark and cold, with darkness occurring in early afternoon, while during summer, days are long, while nights are semi dark.

Average min/max seasonal temperatures

- Summer: 18°C to 25°C
- Winter: -7°C to +2°C

Most rainfall occurs during summer and early autumn, with snowfalls from October to March. Heavy snowfalls possible during months of December, January and February and may remain on ground for long periods.

Fog and snow showers generally affects ceiling & visibility during winter.

Destination alternates, Malmo and Goteborg, both these airports may experience prolonged fog during winter/spring period.

5.50.E. ARRIVAL PROCEDURES

Conventional and RNAV STARs published with numerous crossing altitudes. Lost communication procedures published for Missed Approaches, see Jeppesen approach charts.

RWY01R/19L - CAT IIIB capability

5.50.F. GROUND MANEUVERING

NIL

5.50.G. DEPARTURE PROCEDURES


SIDs published for specific aircraft types. Remote de-icing used when RWY 01R/19L is in use. Refer to Jeppesen airport briefing pages for details.

Night departure - RWY19L used between 2200-0700LT

• De-icing - Terminal 5

TBN

- De-icing takes place on stand.
- Remote De-icing Subject to runway in use, de-icing is conducted remotely. Refer to Jeppesen airport briefing pages for details.


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5.50.H. ADDITIONAL INFORMATION

NIL


5.50.I. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
ESGG	8	ILS/ILS	03/21	3299	MAX
Goteborg-Landvetter					
ESKN	7	LLZ/ILS	08/26	2750	MAX
Stockholm Skavsta					
ESMS	7	ILS/ILS	17/35	2800	MAX
Malmo-Sturup					
EFHK	9	ILS/ILS	04L/22R	3000	MAX
Helsinki		ILS/VOR	15/33	2901	MAX
		ILS/ILS	18/36	2550	MAX
EVRA	8	ILS/ILS	18/36	2550	MAX
Riga					
EETN	7	ILS/ILS	08/26	2820	MAX
Tallinn					

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5.51. TEHRAN (OIIE) - IRAN

Name of Airport : Imam Khomeini International

5.51.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	11L/29R	4198	MAX
	VOR / VOR	11R/29L	3660	MAX

5.51.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: The Mehrabad airport is located approximately 19 NM to the Northeast which can be easily mistaken with this airport. Mehrabad airport has similar runway orientation.

Caution: Birds and stray dogs in vicinity of airport.

Note: FOD is a big problem on the taxi and apron areas.

Note: As instructed by the Iranian Authorities, the term Arabian Gulf shall not be used in/out bound flights of Iran. Correct terminology is **PERSIAN GULF**.

Note: On the basis of rules and regulations of I.R.Iran., entrance and/or export of Alcoholic Drinks, Gambling material and also Magazines, photos, film and snaps and those goods which is against religious and Islamic dignity is totally prohibited.


Note: Women by law must wear a headscarf in public

On the basis of rules and regulations of I.R.Iran., entrance and/or export of Alcoholic Drinks, Gambling material and also Magazines, photos, film and snaps and those goods which is against religious and Islamic dignity is totally prohibited.

Women by law must wear a headscarf in public.

5.51.C. TERRAIN

The airport is located 20NM Southeast of Tehran with an elevation of 3307 feet. It is surrounded by high terrain. The MSA is 13,500 feet within 25 NM North.

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5.51.D. AIR TRAFFIC CONTROL

Jeppesen “ Radar Minimum Altitude Charts 10-1R/1R1” and “Area terminal Chart” is included in the Destination trip kit.

- Start-Up Call 5-10 mins before ready to start
- Clearance Valid 10 mins from time of start-up clearance
- A new ATC flight plan is required if aircraft fails to depart after two start-up clearances.
- ATC Flight Plan Valid for 60 mins after filed EOBT Routing IKA-DOH
- Expect FL180 20nm before waypoint “MIDSI” (Tehran/Bahrain FIR). OFP will reflect the FL restriction.

5.51.E. WEATHER

Summer is mostly fine apart from light dust haze at times. During **winter** the presence of CB's in the vicinity of the airfield and moderate rain can be expected along with significant snow falls.

5.51.F. ADDITIONAL INFORMATION

a) Arrival Procedures:


High missed approach climb gradient, check LPC Landing Performance.

b) Departure Procedures:

NIL

5.51.G. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OIFM	8	VOR/ILS	08L/26R	4397	MAX
Esfahan		CIR/VOR	08R/26L	4397	MAX
OIII	9	VOR/VOR	11L/29R	3992	MAX
Tehran Mehrabad		VOR/ILS	11R/29L	4038	MAX
OIMM	8	VOR/ILS	13L/31R	3776	MAX
Mashhad		VOR/VOR	13R/31L	3886	MAX
OISS	8	CIR/ILS	11R/29L	4259	MAX
Shiraz		CIR/VOR	11L/29R	4342	MAX

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5.52. TEHRAN(OIII)– IRAN

NAME OF AIRPORT: MEHRABAD INTERNATIONAL AIRPORT

5.52.A. AIRPORT DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
9	ILS / ILS	11L/29R	3989	MAX
	VOR / VOR	11R/29L	4030	MAX

5.52.B. WARNINGS, CAUTIONS AND NOTES

Warning: There is very high ground just to the North of the extended centerline.

Warning: Pilot reports indicate possible false localizer captures on RWY 29L.

Caution: Birds in vicinity of the airport. Additionally, stray dogs have been observed in the vicinity of the aerodrome and movement areas.

Caution: Another airport, GhaleMorphi is located 4 NM to the Southeast with a similar runway alignment which can be easily mistaken for Mehrabad when on approach to RWY 29L or 29R. Unlike Mehrabad, this airport does not have parallel runways.


Caution: Due to military jet operations from Mehrabad, use of landing lights below FL 140 and increased caution and lookout are recommended.

Caution: Holding area markings can be difficult to see, additionally lighting on taxiway 5 and 2 is limited.

Caution: Braking action can reduce rapidly from good to poor if the runway is wet.

Caution: Refer to the TLR (Aerodata) to confirm any limitations. Check for landing weight limitations before deciding on tankering.

Note: Pilots must be Self-Briefed and preferably visited before operations.

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Note: On the basis of rules and regulations of I.R.Iran., entrance and/or export of Alcoholic Drinks, Gambling material and also Magazines, photos, film and snaps and those goods which is against religious and Islamic dignity is totally prohibited.

Note: Women by law must wear a headscarf in public

5.52.C. TERRAIN:

The airport is tucked into the Southern edge of an extremely high range of mountains running along the Caspian Sea. Although the majority of the high terrain is to the North of the runway centerlines, there are still significant obstructions to the south.

5.52.D. AIR TRAFFIC CONTROL:

The standard of ATC is satisfactory. Use standard and simple phraseology.

5.52.E. WEATHER:

Summer is mostly fine apart from light dust haze at times.
During winter (season usually begins from December), the presence of CB's in the vicinity of the airfield and moderate rain can be expected along with significant snow falls.

5.52.F. ARRIVAL PROCEDURES:

None.

5.52.G. GROUND MANEUVERS:

All standard equipment is available.

5.52.H. DEPARTURE PROCEDURES:


None.

5.52.I. ADDITIONAL INFORMATION:

- 1) Navigation aids can be unreliable. NDB's are not subject to flight check nor are they monitored.
- 2) There are no taxiway lights and in places taxiway markings are non-existent.
- 3) Military aircraft circuit height is 5,500 feet and other aircrafts are 5000 feet.
- 4) Snow clearance priority is given to RWYs 29L/11R.
- 5) Photography is forbidden on the movement area.

5.52.J. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
OIFM	8	VOR/ILS	08L/26R	4397	MAX
Esfahan		CIR/VOR	08R/26L	4397	MAX
OIMM	8	VOR/ILS	13L/31R	3776	MAX
Mashhad		VOR/VOR	13R/31L	3886	MAX
OISS	8	CIR/ILS	11R/29L	4259	MAX
Shiraz		CIR/VOR	11L/29R	4342	MAX

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5.53. TEL AVIV

NAME OF AIRPORT:

5.53.A. AIRPORT DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
		03/21	5230	MAX
		21/03	5230	MAX

5.53.B. WARNINGS, CAUTIONS AND NOTES

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5.53.C. TERRAIN:

TBN

5.53.D. AIR TRAFFIC CONTROL:

TBN

5.53.E. WEATHER:

TBN

5.53.F. ARRIVAL PROCEDURES:

TBN

5.53.G. GROUND MANEUVERS:

TBN

5.53.H. DEPARTURE PROCEDURES:


TBN

5.53.I. ADDITIONAL INFORMATION:

TBN

5.53.J. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
					MAX
					MAX
					MAX
					MAX
					MAX
					MAX

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5.54. VIENNA (LOWW) - AUSTRIA

Name of Airport : Schwechat International

5.54.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft	
				319	
9	ILS / ILS	11/29	3500	MAX	
	ILS / ILS	16/34	3600	MAX	
D - ATIS			PDC / DCL		Noise Abatement Procedure
Yes			N/A		TBA

5.54.B. GENERAL WARNING, CAUTION AND NOTES

Caution: Rescue helicopter operations at low altitude to and from ASPERN 6.5nm North threshold Runway 16 on extended runway center line Runway 34 and 1nm West of extended runway center line Runway 34.

5.54.C. TERRAIN

The airport is located 10 NM Southeast of Vienna with an elevation of 600 feet. High ground mostly to the Southwest, highest MSA 4900 feet at the Southwest quadrant. Between 110° from Northwest and 270° from Southeast the MSA is 3,400 ft and between 270° and 350° Southeast the MSA is 2700 feet.

Highest terrain of 2884 feet is 18 NM to the Southwest.

5.54.D. AIR TRAFFIC CONTROL


The Air Traffic Control is generally very good.

5.54.E. WEATHER

November to March: Vienna's climate is generally moderate; heavy snowfalls and low temperatures.

July and August: Temperature is usually comfortable with an average of 20°C. Rainfall occurs throughout the year, but mainly from May until August. A northwest Circulation, along the Danube valley prevails most of the time (75% of the year).

Winter fog (mainly during December/January) usually clears by noon. In summer, significant thunderstorms / hail may occur between **May and August**.

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5.54.A. ADDITIONAL INFORMATION

a) Arrival Procedures:

Expect a minimum speed of 160kts to 4nm. If unable to comply, contact ATC.

b) Departure Procedures:


TBN

5.54.B. DESTINATION ALTERNATES

ICAO Code	RFF	IAP	Runway	LDA (m)	MAX Pavement Weight in Tons for Aircraft
Location					319
EDDM	9	ILS/ILS	08L/26R	4000	MAX
Munich		ILS/ILS	08R/26L	4000	MAX
LHBP	9	ILS/ILS	13L/31R	3707	MAX
Budapest		ILS/ILS	13R/31L	3010	MAX
LOWG	9	VOR/ILS	17C/35C	2740	MAX
Graz (Note)					
LZIB	7	CIR/ILS	13/31	2950	MAX/83
Bratislava		CIR/ILS	04/22	2900	MAX/88

LOWG: Primary destination alternate for LOWW.

Note: Operating hours 0500-2300 Z (0400-2130Z).

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5.55. ZURICH (LSZH) - SWITZERLAND

Name of Airport: Zurich International

5.55.A. AIRFIELD DATA

RFF	IAP	RWY	LDA (m)	MAX Pavement Weight in Tons for Aircraft
				319
10	CIR / VOR	10/28	2500	MAX
	ILS / CIR	14/32	3150	MAX
	ILS / VOR	16/34	3230	MAX
D – ATIS			PDS / DCL	Noise Abatement Procedure
Yes			Nil	See Jeppesen briefing pages “10-1P7” & “10-4”

5.55.B. GENERAL WARNING, CAUTIONS AND NOTES

Caution: *Gliders activity is often to be expected to the Northeast and East of Zurich TMA, i.e. in the vicinity of the approach paths.*

Caution: *Don't confuse Runway 14 and 16; they may be in use for alternate landing.*


Caution: *Runway 28 “Hold Short Operations” is used with simultaneous approaches and departures on Runway 16/34 (primary intersecting Runway). This procedure is used under specific conditions/aircraft types (ATR42 and smaller). Details available in Jeppesen briefing pages.*

Note : *Night Curfew in place 2300-0500UTC. Outside these hours authorization from Airport authority required.*

5.55.C. TERRAIN

The airport is located in a valley to the North of the city with an elevation of 1416 feet. There are hills in all directions within 10 NM of the airport. Mountainous terrain rises quickly to the South up to 5000 feet within 25 NM and up to 10,000 feet at 40 NM as the Alps are just 30 NM South, hence the MSA of 8600 feet to the Southeast based on KLO VOR which is located on the airport.

The highest peak in Europe Mont-Blanc lies further to the Southwest,

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approximately 40 miles Southeast of Geneva.

5.55.D. AIR TRAFFIC CONTROL

- Zurich is noise sensitive. Noise abatement procedures in place, see applicable Jeppesen briefing pages.
- Due German Airspace restriction, many restrictions on Runway usage are in place. Refer to Jeppesen page 10-6B.
- Radio Communication Failure; Special state procedures published, see Jeppesen textual manual, Section “Emergency”, Switzerland.

5.55.E. WEATHER

Spring / Autumn: Morning fog is common.

Summer: Frequent Thunderstorms.

Winter: Frequent snow showers. During well established high pressure periods fog can be persistent.

Wind: Prevailing wind is Westerly / Northwesterly resulting in potential tailwinds to Runway 14 and 16.

5.55.F. ARRIVAL PROCEDURE

- **General**
 - Early descents are common.
 - Due surrounding terrain and noise restrictions, tailwinds on approach/finals are frequent.
 - Missed approach procedures - Maximum Speed in the turns.
 - Runway 28 - Arrival delays can be expected due reduced landing capacity.
- **Runway 14 & 16**
 - Expect radar vectors, speed/altitudes request by ATC may result in steep/fast approaches.
 - Runway 16 - False localizer and GP have been reported.
- **Runway 28**
 - ILS approach has a high minima (4000m)

Caution : *Expect turbulence with strong Westerly winds.*

5.55.G. GROUND MANEUVERING

- Reverse Thrust and APU usage - See Jeppesen briefing pages.
- Mode S Transponder - Used on ground for “SMGCS” purposes, see Jeppesen briefing pages.


5.55.H. DEPARTURE PROCEDURE

- Start-up procedures - See Jeppesen briefing pages.
- RWY28 - Normally used for take-off.
- SIDs
 - SIDs are also noise abatement procedures.
 - High climb gradients, Altitude restrictions and speeds in the turns are published.
 - Runway 16 - “Visual Conditions” for departure published.
- De-icing procedure - See Jeppesen briefing pages and 10-9E (deicing pads).
- Aircraft refueling with passenger onboard is permitted. Fire Service must be present at aircraft.


5.55.I. DESTINATION ALTERNATES

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Location					319
EDDF	10	ILS/ILS	07L/25R	4000	MAX
Frankfurt - Main		ILS/ILS	07R/25L	4000	MAX
EDDM	9	ILS/ILS	08L/26R	4000	MAX
Munich		ILS/ILS	08R/26L	4000	MAX
EDDS	10	ILS/ILS	07/25	3045	MAX
Stuttgart					
LFSB	7 (Note1)	ILS/CIR	15/33	3900	MAX
Basle - Mulhouse					
LIMC	9	ILS/ILS	17L/35R	2977	MAX
Milan Malpensa		CIR/ILS	17R/35L	3515	MAX
LSGG	9	ILS/ILS	05/23	3570	MAX
Geneva					

Note 1 : RFF upgrade to CAT 8 available on request.

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OM PART C - 6. METEOROLOGY - GENERAL INFORMATION


6.1. INTRODUCTION

This Chapter contains description of the general climatology and weather patterns for each of the areas within which FLY GEORGIA is planned to operate.

The information given in this Chapter serves the following purposes:

- to enhance awareness with respect to a particular area of the operation through a comprehensive self-briefing;
- to provide a general overall view of operating in the area specified;
- to highlight particular problems associated with operations in the area; and
- To improve flight safety.

Pilots should also familiarize themselves with Jeppesen Text, as it contains important information such as ATC procedures and its national differences from ICAO standards, Emergency Procedures, Communication and Transponder setting procedures and the En-route area specific procedures.

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6.2. AFRICA

6.2.A. GENERAL INFORMATION

Surrounded by the Mediterranean Sea to the north, Red Sea along the Sinai Peninsula and Saudi Arabia to the east and northeast, Indian Ocean to the southeast, and Atlantic Ocean to the west, Africa is the world's second-largest continent after Asia.

It is the only continent to stretch from the northern temperate to southern temperate zones.

The climates in Africa range from tropical to subarctic on its highest peaks. Its northern half is primarily desert or arid, and its central and southern areas contain both savanna plains and very dense jungle (rainforest) regions. In between, there is a convergence where vegetation patterns such as Sahel and steppe dominate. Africa is the hottest continent on earth and holds the record for the highest temperature recorded, in Lybia.

6.2.B. MAJOR FACTS

The strongest meteorological factor is the movement of the ITCZ; this may give very severe conditions that are a hazard to aviators.


The characteristics of the ITCZ are an upper Easterly Jet, monsoon air at the surface meeting the southern hemisphere trade winds. Often buried within the ITCZ at lower levels is an Easterly Jet.

The mixing and thermal rising parcels of air create almost vertical TCU which spread out at the Tropopause (65,000 feet). The air then descends down and mixes with the trade wind air mass.

This creates significant vertical shear. The descending air and the Easterly Jet combine to create the WEST AFRICAN TORNADO during spring and autumn. This area is a belt of TS 20-30 NMS wide giving very heavy Rain, the West African Tornadoes move along the ITCZ, and may be the start of the hurricanes that bring destruction into the Americas and Caribbean.

Elsewhere along the ITCZ the definition is lost due to indiscernible cloud types mixed in a chaotic sky. Buried within these multi-layer formations large TS and TCU grow, with considerable ice and turbulence.

Another major influence is the sea current around Madagascar. The South Equatorial current is a large circulatory current that passes South of Africa, warms as it turns North close to Australia, then further turns west towards Madagascar. As it meets the Northern tip of Madagascar, it divides into a Northerly and Southerly flow.

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The Northerly flow tracks up the coast and then turns through 180 degrees south of Kenya back towards the Seychelles. It is here that the cyclones are born.

On the western side of Africa, the West African tornados track out to sea, crossing the coast of Liberia and meeting the Southerly winds passing the western side of the ITCZ. Once over the oceans they pick up moisture which fuels the cyclonic activity and now we have the birth of the Hurricanes that are tracking to the Americas.

6.2.C. INTER TROPICAL CONVERGENCE ZONE - ITCZ

The Inter Tropical Convergence Zone (or ITCZ) is the belt of low pressure girdling the Earth, near the equator, where the trade winds of the Northern and Southern Hemispheres come together. It is formed by the vertical ascent of warm, moist air from the latitudes above and below the equator. As the air ascends it cools, releasing the accumulated moisture in what can be an almost continuous series of thunderstorms. Convectively active portions of the ITCZ are known as the monsoon trough. Aircraft flying through the ITCZ will encounter all the hazards associated with Cb clouds such as icing, turbulence, lightning, and wind shear.

The ITCZ appears as a band of clouds, usually thunderstorms that circle the globe near the equator. In the Northern Hemisphere, the trade winds move in a southwesterly direction, while in the Southern Hemisphere, they move northwesterly. The point at which the trade winds converge forces the air up into the atmosphere, forming the ITCZ.

The location of the ITCZ varies over time. Over land, it moves back and forth across the equator following the sun's zenith point. Over the oceans, where the convergence zone is better defined, the seasonal cycle is more subtle, as the convection is constrained by the distribution of ocean temperatures.


Sometimes, a double ITCZ forms, with one located north and another south of the equator. When this occurs, a narrow ridge of high pressure forms between the two convergence zones, one of which is usually stronger than the other.

6.2.D. NOVEMBER TO MAY

The surface wind is generally a North-easterly. Close to the ITCZ there is little cloud, and however the convective cloud increases over the mountains of Kenya.

During the rainy season the presence of Thunderstorms increases, these storms may reach 65,000 feet on occasions. Precipitation heavy in rainy season, but Kenya and South Africa have occasional rain during dry season also.

Fine dry weather is normal in the high-pressure region south of Cairo. Reduction in visibility due to rising dust or sandstorms frequent around Khartoum with strong NE winds from Kenya going south.

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The weather is influenced by the ITCZ. The ITCZ lies across Liberia, Lagos then turns South running down the centre of the country to the approximate midpoint before turning east towards Madagascar.

The wet season is November to March or April in the south. The “SHORT RAINS” are in November and December, whilst the “LONG RAINS” are in March and May.

6.2.E. JET STREAMS AND UPPER WINDS

Upper light Westerly winds changing to equatorial trough East of Nairobi and back to light Westerly by Johannesburg. The Jet stream axis is North of Cairo at this time of year.

6.2.F. TROPICAL REVOLVING STORMS

Cyclones affect this route. Originating 5 to 15 degrees South in the Indian Ocean, they are rare in the Seychelles but frequent over Madagascar, Mauritius and Mozambique. Cyclones have been known to affect the Comoros, but generally Madagascar shields them from the worse effects.

Indications are that only side effects from cyclones may be expected about once in every eight years. Cyclones are most frequent January to April, sometimes also November to May.

6.2.G. JUNE TO OCTOBER


The surface winds are generally South-easterly. Equatorial trough almost reaches Johannesburg by July. Local cloud ‘Guti’ in Zimbabwe and occasionally in the Transvaal is observed. Very low stratus and CB with moderate to strong SE winds which bring moisture from Mozambique. These periods are generally about 5 days, the cloud type are generally of greater proportion than in January and are related to the position of the ITCZ.

Precipitation is with ITCZ. A rain belt reaches up to Khartoum and almost all the yearly moisture (150 mm) is deposited at this time. A double wet season in Kenya is the result of the ITCZ movement from March to May and November to December. This is the season for Haboobs and sandstorms in the Sudan.

6.2.H. EGYPT

Egypt is one of the hottest and sunniest countries in the world. With the exception of a strip about 80 km wide along the Mediterranean coast, Egypt has a desert climate, being entirely within the Sahara.

The legendary fertility of Egypt is a consequence of the fact that about 3% of the country consists of the Nile valley and delta. The river Nile has no tributaries within Egypt but is nourished by the heavy rains that fall far to the South in Ethiopia and East Africa. The Nile

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valley and delta are intensively cultivated by irrigation and contain about 95% of Egypt's population.

The Mediterranean coastal strip has an average annual rainfall of 100-200 mm / 4-8 inch, which is not sufficient to support crops. Over the rest of Egypt, roughly south of Cairo, the annual rainfall is a mere 25-50 mm.

In central and southern Egypt several years may pass without any significant rain. When rain does fall it is usually in the form of a brief and sometimes damaging downpour that may cause a local flood.

The climate of the Mediterranean coastal strip is represented by the table for Alexandria. Here the weather in the winter period from November to March may be quite variable with some cloudy days when rain and disturbed weather are brought by depressions moving from west to east in the Mediterranean.

For much of the time, however, the winter weather is warm and sunny; but some cold days occur when northerly winds are strong. Summers are sunny and hot, but the daytime temperature is modified by strong sea breezes on the coast.

The most unpleasant weather near the coast occurs between March and early June, when a weak depression draws very hot air from the Sahara towards the coast. These hot dry khamsin winds are often dust-laden and may raise sand particles in the desert that obscure visibility and irritate eyes, nose, and mouth.

Virtually any part of Egypt can experience such winds, and a severe khamsin is most unpleasant and even dangerous. The very high temperatures occasionally experienced at Alexandria and Cairo almost always occur during the khamsin season. Otherwise northern Egypt does not experience the high temperatures regularly recorded in the south of the country.

Winters are generally warm in the south of Egypt, but temperatures fall rather abruptly at night so that desert evenings in winter can be quite chilly.


Farther north the nights can be distinctly chilly and occasional ground frost is not unknown. In the Nile valley the humidity from the large irrigated areas causes local morning mist and fog, particularly in winter, but this quickly clears as the sun becomes powerful.

On the higher hills of Sinai behind the Red Sea coast, which rise to 7,000-8,000 ft, snow may fall in winter but it rarely lies for more than a day or so.

The heat of southern Egypt in summer is fierce and there is almost no relief from one day to another. The very low humidity, however, makes the heat more bearable and it is rarely dangerous to the acclimatized visitor.

Shade temperatures are misleading in Egypt, where the sun is ubiquitous, and there is no shade in the desert.

From what has been said above it is clear that Egypt has a very sunny climate; daily sunshine hours average about twelve a day in summer to between eight and ten a day in winter.

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There are occasional completely cloudy days in winter in the north, but very few in the south. Places such as Luxor and Aswan and the few oases in the Sahara desert have an almost perfect winter climate: dry, sunny, and not excessively hot.

6.3. EUROPE

6.3.A. MEDITERRANEAN REGION

The climate of Mediterranean Europe has the following outstanding features:

- Most rainfall occurs in winter, while drought prevails in summer.
- Winters are mild, but summers are hot and dry.
- Skies, less cloudy than rest of Europe.
- Summer, almost absence of clouds.

6.3.A. i) Summer


In summer the controlling feature is the Azores anticyclone. The wind directions are northwest and north in the northern section of the Balearic Sea and northeast or easterly between the Azores anticyclone and the low pressures of the Sahara. The eastern half of the Mediterranean Sea is dominated by Asiatic monsoonal low pressures and winds generally blow from a northwest and north over Greece and from West to Southwest over Syria, Israel and Lebanon.

Within the Mediterranean area the effects of land and sea breezes is quite noticeable, with some places, the general flow being almost completely reversed. The breezes are generally shallow and limited to within 2,000ft from the surface. High temperatures are the norm during summer period, getting up to the 40s, especially the further you move inland. Occasional thunderstorms can be a problem during summer months, with Cbs building over high ground.

Visibility during the summer season is generally good, although haze and blowing dust can be a problem.

6.3.A. ii) Winter

During winter the area comes under the influences of westerlies which are generally of a cyclonic trajectory, which brings air masses of different types. The effects of the shallow waves traveling over the seas with the results that the southerlies affect west coasts of the peninsulas and deposit large amounts of precipitation while on the

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eastern side the winds are dry northerlies which bring cold spells behind the passage of cold fronts.

The mistrals are a strong cold northerly wind blowing down the Rhone valley. Mistrals are more frequent during winter and spring and their intensity is reinforced by the funneling effect caused by mountainous ranges. They affect the areas from Barcelona to Genoa, although the areas around Montpellier and Perpignan may get the full force of the northwesterlies due to lack of any natural barrier. The mistrals are a result of polar air rushing southwards behind a cold front. Wind speeds of 80kts may be reached.

6.3.B. BRITISH ISLES AND MID EUROPE


The main movement of air over the British Isles and Western Europe is from the Atlantic Ocean; climate is Marine in character with moderate temperatures, low amount of sunshine, frequent clouds, fog and poor visibility.

The waters of the North Atlantic are unusually warm; as a result the prevailing westerly winds bring to this region an abnormal warm and moist climate. The major climatic controls are the subtropical high pressure centered over the Azores, the Icelandic low pressure cell and the pressure cell over the European continent which undergoes a reversal with high pressure in winter to low pressure in summer. Frontal systems reaching Ireland, UK and France are generally occluded or frontolysis.

Seasonal difference in weather, low ceilings and poor visibilities are more frequent in winter than summer.

Seven weather types based on direction of wind flow have been established, these are:

- 1) The dominant pattern in all months is the southwesterly to westerly flow governed by the low pressure centre South of Iceland. With this flow, precipitation is common at western aerodromes, i.e. Shannon, Prestwick but eastern aerodromes i.e. London, Frankfurt are more likely to report broken stratus or stratocumulus.
- 2) The second most common pattern involves a low pressure centre directly over the UK or English Channel and is characterized by prolonged and steady rain particularly in advance of a warm front. The greatest frequency of this pattern occurs in March and October.
- 3) The third type is a defined anticyclone and light winds centered over the British Isle. It's most frequent in May, although this is essentially a fair weather situation and may bring fog to industrial areas during winter period.
- 4) A fourth type is characterized by northwesterly flow with highest frequency in summer. This may bring Thunderstorms during summer, snow flurries in winter and good visibility, except during actual precipitation.

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- 5) The fifth and sixth type, with north and northeast flows, respectively, are cold weather types of relative infrequency.
- 6) The seventh type is a southeast flow governed by a low in the Bay of Biscay, most significant in autumn, which can make the British Isles warmer than continental Europe, most often bringing rain to the UK and fair weather to Scotland.

6.3.B. i) Winds

Great variability in both speed and direction is found at all levels although the prevailing direction is westerly. Periods of easterly or north-easterly winds are usually associated with a westward extension of the Siberian high. The westerly's generally increase with height; at about 30,000 feet in the jet streams, the axis of which are often situated parallel to the surface fronts but displaced a few hundred miles towards the cold side, speeds of well over 100 knots are common. Winds in summer are generally lighter than in winter.

6.3.B. ii) Cloud and Precipitation


With the prevalence of Cyclonic activity in winter (especially in the west and north) and of convection in summer, there is much cloud and rain throughout the year. The mean cloud amount varies only from about 6 oktas in winter to 5 oktas in summer and shows little variation geographically, but the annual rainfall decreases steadily from about 1,000 millimeters in the extreme west to less than 500 millimeters in the east, except for the increased falls which are to be expected on high ground.

Away from the western coastal strips where most rain falls in winter, the wettest period is usually late summer or autumn and the driest period late winter or early spring. Precipitation is liable to fall as snow during the winter months, more especially in the east and southeast where the ground may remain snow-covered for long periods.

6.3.B. iii) Visibility

The greatest difficulty for aviation in Europe is the high frequency of fog and very low cloud. Both of these occur readily in air masses of maritime origin, little cooling being required to produce condensation. The fog may become widespread and dense in anticyclone conditions and is aggravated by smoke in industrial areas. In summer, fog is infrequent except over the sea and coast where it drifts on-shore. Cloud on the surface of hills is liable to occur at any time of year.

6.3.B. iv) Ice Accretion

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The 0°C isotherm in winter is often at or near the surface, especially in central and Eastern Europe. Combined with the large cloud amounts, these results in high frequency of conditions favorable for airframe icing. Even in summer the risk remains high. Severe conditions occur when an unstable maritime air mass passes over a coast or over hilly country with the formation of extensive convective clouds. This may occur for example over northwest and central Germany with an air supply from the North Sea. Icing is also likely to be severe in a mass of warm front cloud which develops instability on approaching a mountain range.

6.3.B. v) Fog

Fog is the critical weather feature in Europe. The worst period for fog is from mid September to mid October, but this often extends well into December. In recent years incidence of dense fog have reduced due to improvements in control of atmospheric pollution. It is unusual for all the major European airports to be affected by fog at the same time however this will occur on rare occasions when the Siberian high pressure system extends westward during the winter months creating ideal conditions for formation of fog below the marked inversion layer.

6.4. WEST ASIA AND MIDDLE EAST

6.4.A. GENERAL INFORMATION

The Middle East consists largely of arid desert areas which experience very little, if any rainfall.

Coastal temperatures are little lower than inland, but the heat is rendered even more uncomfortable by the high humidity in the summer months.


In the Persian Gulf region, the annual average rainfall is often less than 125 mm and most rain, if any, fall between November and March.

6.4.B. WINTER AND SPRING

The winter and springs starts from November and remain active till April.

Cold fronts from West produce cumulonimbus and squall lines over the Eastern Mediterranean sectors occasionally reaching as far as Tehran. The Tehran area is also affected by cold fronts from the North which produce widespread stratus, fog, drizzle and snow.

Warm fronts may affect the routes near and to Tehran. They move from Southeast to Northwest and the warm air comes from the Gulf Area. They produce overcast weather with rain, drizzle and occasionally snow. East of Tehran and the Gulf Area frontal passages are rare. If they do occur, they produce layers of stratocumulus and

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cumulus with scattered thunderstorms. In the Gulf, fog occurs during this period, but formation is rare before 0200 AM, the worst month being February.

Rainfall is in the form of showers or occasional cumulonimbus, normally of short duration.

Problems with dust haze are negligible, except with occasional squally winds associated with cumulonimbus.

6.4.B. i) *Jet Streams and Upper Winds*

Jet streams will be found over the whole area. The main direction is from the West or occasionally Southwest. Wind forecasts are often wrong due to the movement of the jet stream areas. Average speed is 60 to 90 knots with maximum strength of 120 to 150 knots.

6.4.B. ii) *Turbulence*

Clear Air Turbulence (CAT) in connection with the jet streams. Mountain wave turbulence may occur over Beirut / Ankara.

6.4.B. iii) *Thunderstorms*

There can be very severe cumulonimbus activity at the change over from winter to summer in March and from summer to winter in the autumn, with violent thunderstorms and associated up and down drafts and down bursts. Isolated thunderstorms may occur, especially in May, they usually have a base of around 6000 feet moving slowly to the Northeast.


6.4.B. iv) *Dust and Sand Storms*

Found in the desert region of Egypt, Sudan, Iraq, Iran, the Gulf area and Pakistan. Dust and Sand storms are often associated with gusts and thunderstorms or frontal wind shifts, when the surface winds are greater than 20 to 25 knots. In these storms the air is ruled with dust/sand particles up to at least 15000 feet. These occur at any time of the year most frequently during spring, summer and autumn.

6.4.B. v) *Summer and Autumn*

The summer and autumn starts from May and remain active till October.

Frontal activity over the majority of the routes is generally absent except for weak systems affecting Istanbul/Ankara. Good flying weather with mostly clear sky. In the Gulf region between May to July, dust can affect the airports at any time, and strong surface North-west

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winds (SHAMAL) of 20 to 25 knots can seriously reduce visibility in rising sand and dust. Average visibility is 3000 to 4000 meters in dust, but can fall to about 1000 meters for a few hours after the onset of the SHAMAL, particularly in early June.

Easterly winds from the sea bring patchy fog or stratus at 500 to 1000 feet at Bahrain and Doha.

Generally if Bahrain gets fog so will Doha; Dubai generally gets more fog than Bahrain but rarely fog at the same time. Northwest winds from sea can result in fog at Dubai.

Land breeze from the west-south-west and sea breeze from the east-north-east can bepronounced during summer and autumn.

Note: During summer, rapid cooling at the surface after sunset can produce a marked inversion above 400 feet, and pilots should be alert to the associated problems, as seen in the following example: July:

- 2000 feet : 40° SAT
- 1000 feet : 40° SAT
- 500 feet : 40° SAT
- Below 500 feet dropping rapidly to 31° on the ground.

6.4.B. vi) Jet Streams and Upper Winds

Jet streams are absent over the routes. Light westerly winds becoming variable in the Gulf Area and North-East to South-East towards Karachi.

6.4.B. vii) Turbulence and Wind shear

Practically no turbulence is experienced due to lower wind velocities. However, the approach path to aerodromes in the Middle East and Gulf desert areas are subject to sometimes very strong wind shears and/or inversion.

6.4.B. viii) Tropical Cyclones


Moving in from the Arabian Sea they may very occasionally affect the Karachi area.

6.4.B. ix) Dust and Sand Stands

See (Winter/Spring), however more frequent in summer.

6.4.B. x) Inter Tropical Convergence Zone - ITCZ

The ITCZ may reach as far as Karachi in midsummer but not every year.

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6.4.B. xi) Shamals

(1) General

The Shamal, from the Arabic word for ‘North’, is a wind which can blow with persistence (and is not uncommon during any part of the year) over Iraq and the Persian Gulf. The Shamal is the only feature that brings persistent strong winds to the region. However, there are notable differences between the summer and Winter Shamals (see below).


The Shamals can last for 4 or 5 days and bring wind speeds as high as 40 to 50 kt over the exposed, open sea areas (particularly at rig platform level). Along the coast and inland winds are more typically in the 20 to 25 kt range, they will be strongest during daylight hours when thermal activity causes mixing and momentum transfer in the lowest layers. During the night, surface winds will ease dramatically inland but low level winds will remain strong, leading to possible low level wind shear. Rough seas will develop in the offshore sea areas with the strongest winds and highest seas in the deepwater areas around Das Island. Wave heights of up to 15 to 18 ft have been reported with the strongest Shamals. Marine warnings for the offshore areas are for Beaufort wind speeds of Force 6 and above.

Typically, the cyclonic (anti-clockwise) circulation around the Low pressure combines with the anticyclonic (clockwise) circulation around the semi-permanent High pressure cell over Northern Saudi Arabia to create an enhancement of the winds over the Persian Gulf. These winds are normally confined to that layer of the atmosphere from the surface up to 5000 ft. At ground level during the daytime, the Shamal is particularly strong causing dust storms and widespread areas of lifted sand over the Gulf region, but its strength falls off at the surface overnight. The dust generated in the Northern Gulf is lifted and carried South-eastwards to affect Bahrain, Qatar peninsula and quite frequently the UAE.

During the summer months, this dust haze (which originates in the Tigris-Euphrates flood basin of Iraq) is a serious inconvenience and is often a hazard to aviation operations. The fine sand particles in the Iraqi basin are lifted into the atmosphere by strong surface heating. Temperatures up to 50 degrees Celsius in high summer develop a Thermal Low that reinforces the seasonal leelow of the Zagros Mountains; these convective dust clouds and the fine sand particles are then carried south-eastwards by the strong flow.

(2) Low Level Jet

Common to the Middle East is a phenomenon called the ‘low level jet’ that is a major factor in contributing to the persistence of the Shamal. The jet is mainly a thermal phenomenon, and is confined to heights below 5000 ft where the vertical temperature profile forms an inversion – a physical consequence of a marked temperature difference (normally 3 degrees per 1000 ft, here it can be 18 degrees per 1000 ft). The Jet tends to ride on top of this sharp inversion and has a speed of about 42 to 48 knots at 500 ft.

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During a Shamal the strong winds add to the low-level jet and cause an increase in the strength of the wind. The combination of the ‘Low Level Jet’ and a Shamal creates significant occurrences of low level wind shear.

Note: This combined phenomena (Shamal and Low Level Jet) has been identified as contributing to destabilized approaches. The continuation of approaches with significant tail wind effects at altitude and negligible surface wind is not encouraged. Timely notification of these conditions to ATC and replanning arrival to a more favorable runway should be attempted. Should an approach and landing be necessary in these conditions, it requires careful planning and execution, with crews fully prepared to execute a missed approach should they encounter any signs of the approach becoming destabilized.


(3) Summer Shamals

High temperatures over Northern India ahead of the monsoon create a marked “heat low” during early June. A trough of low pressure extends westwards into the Gulf from this low-pressure centre and helps to reinforce a “lee low” over the South coast of Iran. This low combined with a ridge of high pressure over Saudi Arabia produces a Northwesterly gradient, which can persist over the Gulf for up to six weeks. The phenomenon is known locally as the “Forty day Shamal”. From year to year the onset and strength of this affect can vary widely. Hot and generally dry conditions prevail with periods of South-easterly winds replacing the North-westerly flow when the lee low weakens. When the winds are from the North-west they bring hot and often dusty conditions from the deserts of Saudi Arabia, Kuwait and Iraq. As the time the air spends over the Persian Gulf is relatively short when the winds are strong and as the sea surface temperature is still comparatively low, the Northwesterlies can remain fairly dry at this time of year.

(4) Winter Shamals

During the winter months from November to April, upper level troughs pass through the area bringing strong surface pressure patterns to the lower Gulf area. When the trough is to the west of the area, over Saudi Arabia, a South-easterly pressure gradient will exist over the Emirates. Ahead of the trough cloud, rain and isolated thunderstorms can be expected.

The development and intensity of these features depends on various criteria such as stability of the atmosphere, depth and speed of the trough and low-level sources of moisture. As the upper trough moves through the Emirates a ridge of high pressure begins to develop over Saudi Arabia. This ridge combines with a lee low, which forms over the mountains of Southern Iran to generate a strong North-westerly gradient over the Gulf. The wind that is generated is known by its local name “Shamal” from the Arabic word for north. The winter Shamal will bring cold air from Turkey and Northern Iraq all the way into the southern deserts of the Rub Al Khali. These winds will therefore bring marked falls in temperature and will often be associated with extensive areas of broken stratocumulus cloud, which form over the relatively warm waters of the Gulf. As the Shamal develops atmospheric conditions tend

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to become increasingly stable with cold air in the low levels and high-pressure building over the area.

6.5. SOUTH ASIA AND INDIAN SUB-CONTINENT

6.5.A. GEOGRAPHICAL EXTENT

The geographical extent of Indian subcontinent and South Asia includes countries like Afghanistan, Bangladesh, Bhutan, India, Indonesia, Malaysia, Maldives, Nepal, Pakistan, Singapore, Sri Lanka and Thailand.

6.5.B. WINTER AND SPRING

The winter and springs starts from December and remain active till June. Fine weather season, cool and dry. Generally less than 2/8 of cloud.

6.5.C. JET STREAMS AND UPPER WINDS

December to March are the months of greatest jet streams activity. Main axis North of Karachi, New Delhi, and Kolkata.

6.5.D. TURBULENCE

Clear Air Turbulence associated with the jet stream, light to moderate.

6.5.E. THUNDERSTORMS AND TROPICAL CYCLONES


Occasionally a depression from the Mediterranean area may move across India, South of the Himalayas giving thunderstorms and northwest surface winds up to 50 knots, in the region of Kolkata. They are called the “Norwesters” Tropical Cyclones have a secondary peak in May and may be found in the Bay of Bengal.

6.5.F. SUMMER AND AUTUMN

The summer and autumn starts from July and remain active till November.

This is the monsoon season, monsoon means seasonal. A monsoon is a main wind flow that persists for a long period and then undergoes a complete reversal with change of season. Winds result from the effect of uneven seasonal heating between the large landmass of Asia and warm Equatorial Seas. Summer monsoons blow towards low pressure over the heated land. Winter monsoons from high pressure over the cooled land.

The Southwest monsoon advances over Southern Indian Peninsula and Sri Lanka between 25th and 31st May every year. The monsoon advances in the form of two branches known as

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the Arabian Sea Current and the Bay of Bengal Current. The advance of the ITCZ or the Inter-tropical

Front over the latitudes of India is known as the advance of the Southwest monsoon. Normally the advance of the Southwest monsoon is heralded by thunderstorms when the equatorial maritime air replaces the continental air. The ITCZ advances as far as 27N parallel and the entire India is in the grip of Southwest monsoon by the 15th of July when the axis of the Inter Tropical Convergence Zone is located from the Northern parts of Rajasthan across the Gangetic plains into the head bay of Bengal. Along the axis of the trough thunder and precipitation is the characteristic feature throughout the season.

Whereas the latitudes of Bombay are characterized by steady showery precipitation.


The inter-tropical front or the ITCZ is the boundary along which the trade wind currents of both hemispheres converge. Its position varies with the season, being located approximately 10 degrees South in January-February and 5 degrees North in July to August. The monsoon and the mean position of the ITCZ reaches Colombo at the beginning of May, Bombay about 3 - 4 weeks later. The ITCZ retreats again during October (BOM) and early November (CMB). The ITCZ consists of squalls with cumulus and CB activity over an area of 100 NM or more in width. Top of CB's 50-60000 feet. Best flying altitude can sometimes be FL 280-300 below the widespread anvil.

West Coast of India (Bombay), Trivandrum and Sri Lanka get heavy rainfall under the influence of the Arabian Sea branch of the Southwest monsoon. In fact the period of May / June are the peak period of rainfall activity. Similarly in this period (July / August) Eastern provinces of India namely eastern parts of Bihar, West Bengal (Kolkata) and Bangladesh (Dhaka) come under the influence of the Bay of Bengal Current of the Southwest monsoon.

During July and August intense low pressure systems called monsoon depressions originate over the head bay of Bengal and travel in West to North-westerly direction ushering rainfall along their tracks. These depressions cause widespread rainfall over India. When a monsoon depression moves northwest from the head bay and located near Central India, Bombay experiences very heavy rainfall associated with squally weather.

Even though the activity of the Southwest Monsoon season extends from June to September, the whole season is not one of continuous rainfall activity. Barring the monsoon depressions which cause heavy rainfall along the path in which they travel, the rainfall activity in general over the India Sub-continent also depends very largely upon the position of the monsoon trough.

When this trough occupies a more northerly position it is known or called a Weak or Break Monsoon condition. The Weak or Break Monsoon occurs when the whole country is under the Westerly wind sweep. This can be seen when the Bay of Bengal branch of monsoon is not affecting the northern parts of India and when there is no easterly wind flow to the north of the axis of the monsoon trough.

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During such situations, the rainfall pattern over the country undergoes a striking change. The regions of the Himalayas get very heavy rainfall. The northern parts of Assam get very heavy rain and the rivers in the northeast regions become flooded. The rainfall activity generally decreases over the rest of the country. Cloud coverage is lesser during such periods and as a consequence, the temperature rises. Pressures also rises phenomenally over the central parts of the country.

However, there is an increase of rainfall more of thunder activity over the interior parts of the South Peninsula. In fact, Madras gets thundershowers during such spells.

6.5.F. i) Jet streams and Upper Winds

Westerly jet stream activity is absent. An easterly jet stream may occasionally be found over the Rangoon/Bangkok track. Generally light winds with variable direction East to Southeast. Somewhat stronger towards Singapore, up to 30 knots.

6.5.F. ii) Turbulence

In the monsoon you may encounter anything between lights to extreme turbulence. Do not fly into CB's. Circumnavigation with radar is always possible. Avoid adverse weather generously.

6.5.F. iii) Thunderstorms and Tropical Cyclones

The thunderstorms (CB's) seldom last longer than 30-40 minutes over an aerodrome, giving heavy rainfall with visibility well below landing minima.

Delay your landing or take-off.


The lowest frequency of occurrence is during the period 0600 Local time to noon, the maximum in the late afternoon and night. Tropical cyclones occur most often in this season and will be found in the Bay of Bengal. They approach the bay in a westerly direction across the Malayan Peninsula; they change to a northerly direction reaching the Bay of Bengal and frequently hit the land South-East of Kolkata (Bangladesh) with devastating effect.

6.5.F. iv) Weather Pattern in the Regions

(1) Afghanistan

Afghanistan is a landlocked country in South West Asia. It is bound by Pakistan to the east and south, Iran to the west, Turkmenistan to the northwest, Uzbekistan and Tajikistan to the north and China to the northeast. The country is divided from southeast to northwest by the Hindu Kush and Pamir Mountain Ranges and is divided into three geographical regions:

- The central highlands which account for 64% of the land area and are part of the Himalayan Ranges. The Hindu Kush ridge rises above 6,400 meters (21,000 feet).

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- The fertile northern plains with elevations of up to 600 meters (2,000 feet).
- The southwestern plateau which accounts for 25% of the land area and is an arid region vegetated mostly by scrub with an average elevation of about 900 meters (3,000 feet).

Afghanistan has a continental dry climate with large differences between day and night temperatures as well as quick seasonal transitions. Summer temperatures in the plains can reach 46 degrees Celsius (115 degrees Fahrenheit) while in the higher plateaux winter temperatures can fall to -26 degrees Celsius (-15 degrees Fahrenheit). The “Winds of 120 Days” which occur between June to September can have velocities of up to 180 kmph (108 mph) and the rainy season is from October to April, although rainfall is very irregular. Average temperature ranges in Kabul are from -8 to 2 degrees Celsius (18 to 36 degrees Fahrenheit) in January to 16 to 33 degrees Celsius (61 to 91 degrees Fahrenheit) in July.

(2) India

India is located on the Indian sub-continent in South Asia. It is bound by Pakistan to the northwest, China, Bhutan and Nepal to the north, Myanmar and Bangladesh to the east, the Bay of Bengal to the southeast and the Arabian Sea to the southwest.

India has a tropical climate that is dominated by the Asiatic monsoons with four fairly distinct seasons which are common to all six or seven climatic regions.

- A relatively cool winter monsoon season.
- A hot and rain less transitional season.
- A rainy monsoon season and
- A humid season.

Tropical hurricanes and cyclones are common between April to June and September to December.


(3) Pakistan

Pakistan is located in South Asia. It is bound by India to the east, Afghanistan and Iran to the west, China to the north and the Arabian Sea to the south. The country is divided into three main geographical regions:

- The northern highlands which include the Hindu Kush Mountain Ranges, including the K2 peak while south of the Khyber Pass they include the SafedKoh, Toba Kakar and RasKoh Ranges.
- The Indus River Plain which contains fertile agricultural land and to the west the Thal and Thar Deserts.
- The Baluchistan Plateau which is an arid tablelands with a number of small mountain ranges such as the Central Brahui, Kirthar, Makran and Sulaiman Ranges.

Pakistan has a subtropical climate characterized by four seasons.

- A dry cool winter season from December to February,
- A dry hot summer season from March to May,

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- A SW Monsoon season from June to September and
- A NE Monsoon season from October to November.

Average annual precipitation varies from 1,520 mm (60 inches) to 127 mm (5 inches) depending on the region. The prevailing summer wind is a dry wind called the Loo. Average temperature ranges in Karachi are from 13 to 25 degrees Celsius (55 to 77 degrees Fahrenheit) in January to 28 to 34 degrees Celsius (82 to 93 degrees Fahrenheit) in June.

6.6. CENTRAL ASIA

6.6.A. GEOGRAPHICAL EXTENT

Central Asia is an extremely large region of varied geography, which includes countries like Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Since Central Asia is not buffered by a large body of water, temperature fluctuations are more severe.

6.6.B. WEATHER PATTERN IN THE REGIONS

6.6.B. i) *Azerbaijan*

Azerbaijan is located in Southeastern Europe / Southwestern Asia between Armenia and the Caspian Sea. Azerbaijan shares boundaries with Russia on the N, the Caspian Sea on the E, Iran on the S, Armenia on the W, and Georgia on the NW. Azerbaijan's capital city, Baku, is located on the Caspian Sea.


The topography of Azerbaijan features the large, flat Kura-Aras Lowland (much of it below sea level) surrounded on three sides by mountains. The Great Caucasus Mountains are to the North, the Lesser Caucasus Mountains are to the Southwest, and the Talish Mountains are in the south along the border with Iran.

The country's climate is sub-tropical in the Eastern and Central parts. In the mountainous regions the climate is alpine-like. The Southeastern section of the country has a humid subtropical climate.

The average temperature in the capital, Baku, in July is 25° C. In January the average temperature is 4°C. Rainfall varies according to climate zones. The average rainfall for most of the country is only about 15 to 25 cm (6 to 10 inch).

6.6.B. ii) *Uzbekistan*

Uzbekistan is located in central Asia bordering the Aral Sea, between Kazakhstan and

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Turkmenistan. Uzbekistan shares boundaries with Kazakhstan on the North, Kyrgyzstan and Tajikistan on the East, Afghanistan on the South, and Turkmenistan on the Southwest. Its capital city, Tashkent, is located in the eastern part of the country.

Uzbekistan's climate is classified as continental, with hot summers and cool winters.

There is no direct access to the sea or ocean, this makes the country's climate very hot, dry, and sharply continental. Temperate climatic conditions prevail in the North, while subtropical in the far South.

Summer temperatures often surpass 40°C; winter temperatures average about -23°C, but may fall as low as -40°C. Most of the country also is quite arid, with average annual rainfall amounting to between 100 and 200 millimeters and occurring mostly in winter and spring. Between July and September, little precipitation falls, essentially stopping the growth of vegetation during that period.

Uzbekistan consists of mostly flat to rolling sandy desert with dunes. The Aral Sea lies in the northwest and there is semiarid grassland in the east.

Heavy and long-lying snowfall is not usual for the country. The average snowfall is 5-15 cm, and in foothills - it ranges from 10 to 12 cm.

6.6.B. iii) Kazakhstan

Kazakhstan is located in southern Asia between Russia and Uzbekistan, bordering on the Caspian Sea and the Aral Sea. Kazakhstan shares boundaries with Russia on the North and West, China on the East, Kyrgyzstan, Uzbekistan, and Turkmenistan on the South, and the Caspian Sea on the West. Its capital city, Astana, is located in the north-central part of the country.

The topography of Kazakhstan is varied, as it extends from the Volga River to the Altai Mountains and from plains in western Siberia to central Asian oasis and desert. Only about 12% of Kazakhstan's land is arable with less than 1% under irrigation.

The country has an arid continental climate. In January, the mean temperature is -5°C.


Rainfall averages between 25 cm (9.8 in) and 38 cm (15 in). Because of the wide ranges in elevation in the country, there are wide variations in temperature and rainfall.

6.6.B. iv) Turkmenistan

Turkmenistan is located in central Asia, bordering the Caspian Sea, between Iran and Uzbekistan.


Turkmenistan shares boundaries with Kazakhstan and Uzbekistan on the North, Afghanistan on the Southeast, Iran on the Southwest, and the Caspian Sea on the West. Turkmenistan's capital city, Ashkhabad (which means "city of love"), is located in the Southwestern part of the country.

The topography features flat to rolling sandy desert with dunes to the Caspian Sea, which lies in the west. The Kara Kum desert occupies over 80% of Turkmenistan's total area. The desert is bounded by oases in the north that are watered by the Amu Dar'ya, and by the Murgab,

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Tejen, and Atrek rivers in the south. The highest point in Turkmenistan is the Gora Ayribaba (3,139 m/10,299 ft), located along the eastern border near Uzbekistan. Only 4% of Turkmenistan's land is arable with approximately 2.5% under irrigation.

Turkmenistan has a subtropical desert climate that is severely continental. Summers are long (from May through September), hot, and dry, while winters generally are mild and dry, although occasionally cold and damp in the north. Most precipitation falls between January and May; precipitation is slight throughout the country, with annual averages ranging from 300 millimeters in the Kopetdag to eighty millimeters in the northwest. The capital, Ashgabat, close to the Iranian border in south-central Turkmenistan, averages 225 millimeters of rainfall annually. Average annual temperatures range from highs of 16.8°C in Ashgabat to lows of -5.5°C in Dashhowuz, on the Uzbek border in north central Turkmenistan. The almost constant winds are northerly, northeasterly, or westerly.

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OM PART C - 7. DEPRESSURIZATION ESCAPE PROCEDURES

7.1. INTRODUCTION

This chapter contains the escape routes applicable for certain route sectors in the event of depressurization.

7.2. DRIFT DOWN PROCEDURES

REFER TO STANDARD OPERATIONS PROCEDURES

7.3. ASSUMPTIONS TO DETERMINE ESCAPE ROUTE

The following assumptions shall be applied to determine the escape route:

- All obstacles shall be located 10 NM of either side of the route centerline.
- All obstacles shall be cleared by 2000 ft.
- Flight after depressurization shall be performed **according to SOPs and Captain's evaluation of the situation.**
- Temperature ISA, no wind.
- In case of in-flight turn back, 2.5 minutes shall be considered toward lost for the turn.

7.4. PARTICULAR CASES REGARDING SPECIFIC ROUTING

A study case by case is performed :


TBS-KIEV : Not applicable


TBS-MINSK : Not applicable

TBS-MOSCOW : Not applicable

TBS-ISTAMBUL : Not applicable

TBS-IKA : TBD

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OM PART C - 8. AIRPORTS ANALYSIS

This chapter refers to performances at take off and landing and EO SID.

Refer to Jeppesen OFP for each airport.

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