DRAGONAIR

OPERATIONS MANUAL

PART A
POLICY PROCEDURES & REQUIREMENTS

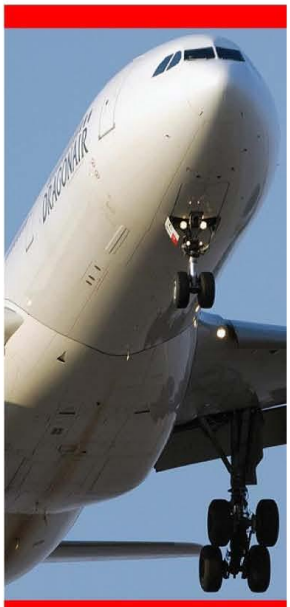
This volume forms part of the Operations Manual. It is issued by the Operations Department and is authorised by the General Manager (Operations).

Signed : _____
Peter SANDERSON
General Manager Operations

Revision

The holder of this Volume is responsible for its revision.

DRAGONAIR
港龍航空



安全、質量及保安政策

安全、質量及保安是港龍航空的核心價值。藉著各員工絕不妥協地致力推行各種持續提升質量、保安及安全管理系統計劃，我們務求在這些方面均達到最高的水平。

港龍航空一直以來均十分重視及鼓勵任何有關運作安全及保安事件的報告。我們有既定政策，鼓勵每一位員工向公司匯報任何可能影響航班及地勤營運安全及保安的情況及資料，並積極推動這種文化。我們更製訂了一套程序，適用於航空安全報告、機艙安全報告、地勤安全報告、品質審計報告及保安審查報告所收集紀錄及發放的資訊，確保溝通可以在不受拘束的情況下進行。

我們亦確立機制，以量度及訂立在所有有關安全、質量及保安方面的主要表現水平，並以嚴謹的風險評審，按其重要性訂定改善措施的優先次序。

爲建立互信關係，港龍航空推行公平文化的政策，決不會紀律處分任何匯報有關航班安全事件的員工。但如果有關資訊是來自其他來源，或員工刻意漠視既定的政策及程序，此項政策則不適用。我們希望從錯誤中學習，以不斷提升水平。

作爲行政總裁，我自然責無旁貸，除致力履行承諾提供安全的運作及工作環境，我務請大家積極負責，讓港龍航空繼續在安全、品質及保安方面均達致最高的水平，讓顧客、員工及商業夥伴均受惠，並保持公司在這方面的業界領導地位。

楊偉添

行政總裁　　楊偉添
二〇一一年八月

SAFETY, QUALITY AND SECURITY POLICY

Safety, quality and security are core values of Dragonair. We are dedicated to achieving the highest standards in these disciplines by the uncompromising efforts and vigilance of every employee in implementing continuous quality improvement, security and safety management system programmes that are in place in Dragonair.

It is imperative that we have uninhibited reporting of all incidents and occurrences which compromise the safe and secure conduct of our operations. We have a policy of an open reporting culture where every employee is encouraged to communicate any information that may affect the integrity of flight and ground safety and security. Such communication is free of reprisal. Our method of collecting, recording and disseminating information obtained from Air Safety Reports, Cabin Safety Reports, Ground Safety Reports, Quality Audits and Security Inspections has been developed to achieve this aim.

We have established methods to measure and set key performance standards in all the safety, quality and security disciplines coupled with a rigorous process of risk assessment in order to prioritise the deployment of corrective actions in a timely and efficient manner.

To engender mutual trust, Dragonair has a just culture policy where it will not take disciplinary action against any employee who discloses an incident or occurrence involving safety. This policy shall not apply to information received by the company from a source other than the employee, or when the employee knowingly disregards established policies and procedures. We constantly improve our standards by learning from our own mistakes and errors as well as those made by others.

As the Chief Executive Officer I am ultimately accountable and fully committed to providing a safe operational and working environment. However I require you all to take responsibility to ensure Dragonair maintain its industry position as a leader in providing our customers, employees and business partners with the highest level of safety, quality and security.

Patrick Yeung
Chief Executive Officer
August 2011

DRAGONAIR

POLICY STATEMENTS

COMMANDER/PILOT IN COMMAND/PIC

The term "Commander" throughout the Operations manuals is synonymous with "Pilot in Command (PIC)"

CREW RESOURCE MANAGEMENT (CRM)

Dragonair is committed to the application of modern Crew Resource Management principles in Flight Operations. CRM principles of today are considered by Hong Kong Dragon Airlines to provide the most proven methods of achieving effective leadership and communication, aimed at the promotion of safe and efficient flight. While traditional high standards of technical excellence remain the cornerstone of the airline, it is recognised that effective team management is essential. This must involve the promotion of a comfortable and understanding working environment, especially in multi-cultural crew situations, through clear and unambiguous communication and task sharing. It is Company Policy that CRM principles will be promoted and adopted by all persons in Flight Operations.

AUTOMATION

It is Dragonair policy to regard Automation as a tool to be used, but not blindly relied upon. At all times, flight crew must be aware of what automation is doing, and if not understood , or not requested, reversion to basic modes of operation must be made immediately without analysis or delay. Trainers must ensure that all flight crew are taught with emphasis how to quickly revert to basic modes when necessary. In the man-machine interface, man is still in charge.

QUALITY MANAGEMENT

Dragonair is committed to the application of a Quality Management System in Flight Operations. To this end the management system is defined in OM Part A and shall be complied with for all future policy and procedural development.

GENDER

Masculine terms in all the operations manuals, such as he, him or his also imply the female gender.

ELECTRONIC MANUALS

Electronic manuals are an established means of communicating information and data in support of a wide range of FOP activities.
Access to electronic manuals is available to all approved users via Dragonet. All FOP staff are encouraged to utilise electronic manuals on a routine and ongoing basis. Electronic manuals posted on Dragonet represent the latest revised versions and, where differences exist with physical documentation, are considered to be the master source. In some cases manuals can be downloaded directly onto storage devices for offline use. Persons utilising information and data in this manner must be careful to ensure that it represents the latest in-use version available on Dragonet.

STANDARD OPERATING PROCEDURES

Airbus customized FCOM chapters and QRH as well as Dragonair customized FCOM and QRH chapters are accepted as the Standard operating Procedures for Dragonair. Where there is a difference between Airbus and Dragonair customized material, the latter is the overriding authority.

DESIGNATED COMMON LANGUAGE

It is Dragonair Policy that English shall be the designated common language for Flight Operations. All communications pertaining to Flight Operations, whether oral or written will be conducted in English. This includes all oral communications between Flight Crew within the Cockpit, and between the Flight Crew and all other staff (includes the Cabin Crew, Ground Handling Personnel, Passengers, Air Traffic Control and any other ground station or aircraft). All operational documentation including training materials shall be written in English. All Flight Crew and Cabin Crew training activities and evaluations shall be conducted in English.

Signed: _____

General Manager Operations

REVISION RECORD SHEET

REV NO/DATE		INCORPORATED	
		BY	DATE
00	**01 Oct 10**	**INCORPORATED**	
01	**11 Nov 10**	**INCORPORATED**	
02	**13 Jan 11**	**INCORPORATED**	
03	**01 Mar 11**	**INCORPORATED**	
04	**24 Mar 11**	**INCORPORATED**	
05	**04 May 11**	**INCORPORATED**	
06	**18 May 11**	**INCORPORATED**	
07	**01 Jun 11**	**INCORPORATED**	
08	**06 Jul 11**	**INCORPORATED**	
09	**20 Jul 11**	**INCORPORATED**	
10	**14 Sep 11**	**INCORPORATED**	
11	**09 Nov 11**	**INCORPORATED**	
12	**23 Nov 11**	**INCORPORATED**	
13	**30 Nov 11**	**INCORPORATED**	
14	**29 Feb 12**	**INCORPORATED**	
15	**02 May 12**	**INCORPORATED**	
16	**20 Jun 12**	**INCORPORATED**	
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			

REV NO/DATE		INCORPORATED	
		BY	DATE
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			

LIST OF EFFECTIVE SECTIONS

TABLE OF CONTENT

INTENTIONALLY BLANK

0. ADMINISTRATION AND CONTROL OF OPERATIONS MANUAL

0.1 INTRODUCTION

In accordance with HKCAD and ICAO requirements, regarding the structure of the operations manual, Operations Manual Part A - Policy Procedures & Requirements has replaced Volume 12 - Organisation and Volume 8 – Company Instructions.

Any reference to any part (or the whole) of Volume 12 - Organisation shall mean a reference to the appropriate part of Operations Manual Part A - Policy Procedures & Requirements.

Any reference to any part (or the whole) of Volume 8 - Company Instructions shall mean a reference to the appropriate part of Operations Manual Part A - Policy Procedures & Requirements.

Any reference to any part (or the whole) of Volume 10 - Flight Crew Training shall mean a reference to the appropriate part of Operations Manual Part D - Training.

0.1.1 OPERATIONS MANUAL

The Operations Manual is issued by the Operations Division, it is authorised by the General Manager Operations and approved by the Hong Kong Civil Aviation Department.

The Operations Manual has been compiled in order to provide a basic reference, which will be an efficient and reliable source of information for all flying and operations staff, and complies with the AN(HK)O and the AOC conditions and the corresponding operations specifications.

Copies of the Air Navigation Order, A.I.P., A.I.C., AIRAC and Notams are held in the Operations Office for the reference of all staff. Pertinent information affecting Operations will be brought to the attention of all staff by the Flight Crew Notices and Operational Notices, and where such information is of a permanent nature it will be incorporated into the Operations Manual through the Revision Service.

Compliance with published regulations and procedures in the Operations Manual is mandatory.

Any member of the Operations Division who deliberately violates company operational safety standards, except for the purpose of avoiding endangering the aircraft, crew or occupants, may face disciplinary action, including dismissal, following an investigation into the case.

The OPERATIONS MANUAL is made of the following parts:.

Part A: General / Basic (Policy Procedures and Requirements)

Part B: Airplane Operating Matters (Aircraft Operations Manual - AOM)

Part C: Route and Airport Instructions and Information

Part D: Training

Part A: General / Basic (Policy Procedures and Requirements)

Part A defines all non type-related operational policies, procedures, instructions and guidance necessary for company flight operations personnel to perform their duty and needed for a safe operation. Part A can be prepared with the help of this OPERATIONS MANUAL Part A Guidelines.

Part B: Airplane Operating Matters (Aircraft Operations Manual - AOM)

Part B comprises all type-related instructions and procedures needed for a safe operation. It takes account of any differences between types, variants or individual aircraft used by the operator.

Material produced by the company for this Part is supplemented or substituted by applicable parts of the following manuals for the operated aircraft:

- Airplane Flight Manual (AFM) including the Configuration Deviation List (CDL).
- Minimum Equipment List (MEL).
- Flight Crew Operating Manual (FCOM) and Quick Reference Handbook (QRH)
- Weight and Balance Manual (WBM).
- Dragonair OM Vol.7 Emergency Procedures
- Dragonair OM Vol.9 Aircraft Performance & ACARS Procedures

Part C: Route and Airport Instructions and Information

Part C comprises all instructions and information needed for the area of operation.

Material produced by the company for this Part is supplemented or substituted by applicable Route Guide material produced by specialised professional company:

The Port and Route Manuals are to be used by all concerned as a Flight Procedure Manual. They contain all data and information considered necessary to ensure safe operations. However, in an emergency no clause or data should prevent personnel from acting according to their best judgment and to make decisions as dictated by the circumstances.

Contained within Part C:

1. Internal Company Documents
    - Volume 5 (A, B, C, D, E, Flight Supplement)
    - Port Pages
    - Enroute Diversion Guides
    - Runway Analysis
    - Company route briefings
    - CFD Package consist of NOTAM
    - Validity and use of navigation database
2. External Documents
    - Jeppesen Airport and Enroute charts

Part D: Training

Part D will comprise all training instructions required for a safe operation. The Flight Crew Training Program (FCTP) produced by the Flight Crew Training Department, and approved by the Hong Kong Civil Aviation Department (HKCAD), will be used to cover the requirements of flight crew training.

Note:

All flight crewmembers will have their personal copy of the Operations Manual. All other operations personnel will have easy access to the parts relevant to their

respective duties.

The HKCAD has been provided with a copy of the Operations Manual and receives all the amendments and revisions.

All operating staff are required to adhere to instructions laid down in this manual and any deviations should be reported, the reasons for such deviation being given.

Nothing contained in the Operations Manual shall keep personnel from exercising their own best judgement during any irregularity for which the Operations Manual gives no provisions or in emergencies.

Should any individual consider that all or any part of a procedure or instruction requires to be amended, he should notify the Chief Pilot/AGMF.

Notes:

For conciseness, the pronoun "he" is used throughout the text. Where appropriate, "she" should be added to or substituted for "he".

When used in the OM, the following terms shall have the following meaning:

"**Shall**", "**will**", "**must**" or an action verb in the imperative sense means that the application of a rule or procedure or provision is mandatory.

"**Should**" means that the application of a procedure or provision is recommended.

"**May**" means that the application of a procedure or provision is optional.

"**No person may...**" or "**a person may not...**" mean that no person is required, authorised, or permitted to do the act concerned.

"**Approved**" means the Authority has reviewed the method, procedure or policy in question and issued a formal written approval.

"**Acceptable**" means the Authority or the airline has reviewed the method, procedure or policy and has neither objected to nor approved its proposed use or implementation.

"**Prescribed**" means the Authority or the airline has issued a written policy or methodology which imposes either a mandatory requirement, if it states "shall", "will", "must" or an action verb in the imperative sense, a recommended requirement if it states "should" or a discretionary requirement if it states "may".

"**Note**" is used when an operating procedure, technique, etc, is considered essential to be emphasised.

"**Caution**" is used when an operating procedure, technique, etc, may result in damage to equipment if not carefully followed.

"**Warning**" is used when an operating procedure, technique, etc, may result in personnel injury or loss of life if not carefully followed.

0.1.1.1 DESIGNATED COMMON LANGUAGE

It is Dragonair Policy that English shall be the designated common language for Flight Operations. All communications pertaining to Flight Operations, whether oral or written will be conducted in English. This includes all oral communications between Flight Crew within the Cockpit, and between the Flight Crew and all other staff (includes the Cabin Crew, Ground Handling Personnel, Passengers, Air Traffic Control and any other ground station or aircraft). All operational documentation including training materials shall be written in English. All Flight Crew and Cabin Crew training activities and evaluations shall be conducted in English.

0.1.1.2 PART A & PART D PAGINATION & CONTENTS

The contents are defined by:

1. Chapter, Section, Sub-Section and Topic are numbered.
2. Sub-Topic and Heading are not numbered.

The text will continue to next page. A new page will start from next Section or Sub-Section subject to their respective title was shown in header.

Table of contents exist at the beginning of each respective chapter.

“INTENTIONALLY BLANK” appears at overleaf of the end of each chapter and table of contents.

Text specific to a particular type is suitably annotated. Information in square [brackets] applies to A330, in {brackets} to A321 and (brackets) to A320.

The header of each page contains:

a. CHAPTER TITLE and when applicable SECTION TITLE AND SUB-SECTION TITLE

b. Chapter number. Section number (if applicable). Sub-section number (if applicable)

c. The name of the manual: for example - FOP OPS PART A

d. Revision date

e. Page number within Chapter

Note: In this manual, (EU-OPS 1.XXX) is mentioned whenever the paragraph refers to the associated requirement.

0.1.2 ELECTRONIC MANUALS

OM are available to eligible crew in electronic form (e-manuals) via Dragonet in Portable Document Format (PDF). Access to electronic manuals is available to all approved users via Dragonet. All FOP staff are encouraged to utilise electronic manuals on a routine and ongoing basis. Manuals on the Flight Crew Team Manuals page are also considered as controlled when viewed online. They represent the latest revised versions and where differences exist with physical documentation, are considered to be the master source. In some cases manuals can be downloaded directly onto storage devices or printed for offline use. Users shall be aware that these manuals will become uncontrolled when removed from the online environment. Persons utilising information and data in this manner shall have a control process to ensure that their revision status is kept in line with the master site. It is the responsibility of the person who downloads or prints the manual for this purpose to set up and control this procedure.

0.1.3 OM DISTRIBUTION – FLIGHT CREW

The HKCAD requires all crewmembers to keep Company Operations Manuals (OMs) updated to the current amendment status. The full range of up to date Company OM are published on the Dragonet. An e-mail will advise crewmembers of amendments and all changes will also be highlighted on the Dragonet for reference.

On joining the Company, crew members will be issued a hard copy of OM Vol.7, Part A chapter 8, FCOM, QRH and FCTM marked with “UNCONTROLLED COPY”. The FCOM, QRH, and FCTM will be specific to the KA simulator MSN and will be provided with an amendment service for the first 6 months.

For crew members undergoing Type Conversion or Command Training, a hard copy of the relevant simulator MSN specific FCOM, FCTM and QRH will be issued on request, an amendment service will also be provided for 6 months.

0.1.4 OPERATIONS DIVISION LIBRARY

Dragonair is required to hold copies of regulatory documents appropriate to the operation. Copies of these documents are held in the Operations Division Library, which is located on the 2nd Floor of Dragonair House. The library contains, inter alia, copies of;

Dragonair Operations Manuals

Air Navigation (Hong Kong) Order 1995 and Associated Regulations

Hong Kong Aeronautical Information Circulars (AIC)

Hong Kong Aeronautical Information Publication (AIP) and Regional AIPs

Relevant ICAO Annexed and Associated Publications

ICAO Technical Instructions for the Carriage of Dangerous Goods in Aircraft

IATA Dangerous Goods Regulations

Airworthiness Directives (held in Engineering Division).

0.1.5 ABBREVIATIONS

AAL	Above Aerodrome Level
ABM	Abeam
AC	Advisory Circular, Alternating Current
A/C	Aircraft
ACARS	ARINC Communication Addressing and Reporting System
ACAS	Airborne Collision Avoidance System
ACJ	Advisory Circular Joint (JAR)
ACMS	Aircraft Condition Monitoring System
ACN	Aircraft Classification Number
AD	Airworthiness Directive
ADC	Air Data Computer
ADD	Acceptable Deferred Defect
ADI	Attitude Director indicator
ADIRS	Air Data Inertial Reference System
ADF	Automatic Direction Finder
ADS	Automatic Dependent Surveillance
ADV	Advisory
AEA	Association of European Airlines
AFM	Airplane Flight Manual
AFS	Automatic Flight System
AFTN	Aeronautical Fixed Telecommunication Network
AGL	Above Ground Level
AGMF	Assistant General Manager Flying
AGMO	Assistant General Manager Operations
AH	Alert Height
AIP	Aeronautical Information Publication
AIRS	Aircrew Incident reporting System
AIS	Aeronautical Information Service
ALS	Approach Light System
ALT	Altitude
ALTN	Alternate
AMC	Acceptable Means of Compliance (JAR)
AMJ	Advisory Material Joint
AMM	Aircraft Maintenance Manual
AMSL	Above Mean Sea Level
AOA	Angle Of Attack
AOC	Air Operator Certificate
AOC	Airline Operations Communications
AOG	Aircraft On Ground
AOM	Aeroplane Operations Manual
AOM	Airport Operating Minima
AOT	All Operators Telex
A/P	Auto-Pilot
APA	Accident Prevention Adviser
APQ	Airline Pre-qualification
APU	Auxiliary Power Unit
ARINC	Aeronautical Radio Inc.
ARPT	Airport
ASAP	As Soon As Possible
ASDA	Accelerate-Stop Distance Available
ASI	Air Speed Indicator
ASR	Airport Surveillance Radar
ASR	Air Safety Report
ASU	Air Starter Unit
ATA	Actual Time of Arrival
ATA	Aeronautical Transport Association
ATC	Air Traffic Control
ATD	Actual Time of Departure
ATHR	Autothrust
ATIS	Automatic Terminal Information Service
ATM	Air Traffic Management
ATN	Aeronautical Telecommunication Network
ATPL	Airline Transport Pilot License
ATS	Air Traffic Services
ATS	Auto Thrust System
ATSU	Air Traffic Services Unit
ATT	Attitude
AVGAS	Aviation Gasoline
AWO	All Weather Operations
AWY	Airway
---	---
BARO	Barometric
BAT	Battery
BFE	Buyer Furnished Equipment
BITE	Built In Test Equipment
BRG	Bearing
BRK	Brake
BRNAV	Basic Area Navigation
---	---
C	Celsius, Centigrade
CAPT	Captain
CAS	Calibrated Airspeed
CAT	Clear Air Turbulence
CAT I	Landing Category I (II or III)
CAVOC	Ceiling and Visibility OK
CB	Cumulonimbus
C/B	Circuit Breaker
CBT	Computer Based Training
CCOM	Cabin Crew Operating Manual
CCQ	Cross Crew Qualification
CDL	Configuration Deviation List
CDU	Control Display Unit
CFDS	Centralised Fault Display System
CEPAC	Central East Pacific
CENPAC	Central Pacific
CFIT	Controlled Flight Into terrain
CFP	Computerised Flight Plan
CIDS	Cabin Intercommunication Data System
CG	Centre of Gravity
C/L	Check List
CM1/2	Crew Member 1 (LH) / 2 (RH)
CMD	Command
CMDR	Commander
CMP	Configuration, Maintenance & Procedures
CN	Consigne de Navigabilité
CNS	Communication, Navigation, Surveillance
COM	Communication
CP	Critical Point (ETOPS)
CPA	Chief Pilot Airbus
CPDLC	Controller Pilot Data Link Communications
CRM	Crew Resource Management
CRS	Course
CRT	Cathode Ray Tube
CRZ	Cruise

CSS	Cockpit System Simulator
CTA	Control Area
CTR	Centre
CVR	Cockpit Voice Recorder
DA	Decision altitude
daN	Deca Newton
DC	Direct Current
DCDU	Data Communication Display Unit
DDG	Dispatch Deviation Guide
DDRMI	Digital Distance & Radio Magnetic Indicator
DEG	Degree
DEST	Destination
DFDR	Digital Flight Data Recorder
DFO	Director Flight Operations
DGPS	Differential GPS
DH	Decision Height
DIR TO	Direct (route) To (a waypoint)
DIST	Distance
DME	Distance Measuring Equipment
DOC	Document
DOI	Dry Operating Index
DOW	Dry Operating Weight
DU	Display Unit
ECAM	Electronic Centralised Aircraft Monitoring
ECON	Economic
EDP	Electronic Data Processing
EEP	ETOPS Entry Point
EFIS	Electronic Flight Instrument System
EFOB	Estimated Fuel On Board
EGPWS	Enhanced GPWS
EGT	Exhaust Gas Temperature
EIS	Electronic Instrument System
ELEC	Electrical
ELEV	Elevator, Elevation
ELT	Entry Level Training
ELT	Emergency Locator Transmitter
EMER	Emergency
ENG	Engine
ENGG	Engineering
EO	Engine Out
EOSID	Engine Out SID
EPR	Engine Pressure Ratio
EST	Estimated
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
ETOPS	Extended Twin Engine Operations
ETP	Equi-Time Point
EURO	CAEEuropean Organisation for Civil Aviation Equipment
EXP	Exit Point (ETOPS)
EXT	External
F	Fahrenheit
FAA	Federal Aviation Administration
FADEC	Full Authority Digital Engine Control
FAF	Final Approach Fix
FANS	Future Air Navigation System
FAP	Final Approach Point
FAR	Federal Aviation Regulations
FBS	Fixed Base Simulator
F/C	Flight Crew
FCL	Flight Crew Licensing
FCOM	Flight Crew Operating Manual
FCTM	Flight Crew Training Manual
FCU	Flight Control Unit
FD	Flight Director
FF	Fuel Flow
FFS	Full Flight Simulator
FIR	Flight Information Region
FL	Flight Level
FLT	Flight
FM	Flight Manual
FMA	Flight Mode Annunciator
FMGS	Flight Management and Guidance System
FMGES	Flight Management, Guidance and (flight) Envelope (protection) System
FMS	Flight Management System
F/O	First Officer
FOB	Fuel On Board
FOD	Foreign Object Damage
FOM	Flight Operations Manual
FOQA	Flight Operations Quality Assurance
FOT	Flight Operations Telex
F-PLN	Flight Plan
FPV	Flight Path Vector
FQI	Fuel Quantity Indication
ft, FT	Foot (Feet)
FTL	Flight Time Limitation
FU	Fuel Used
FWD	Forward
g, G	Gram
GA	Go Around
GEN	Generator
GLONASS	Global Orbiting Navigation Satellite System
GMO	General Manager Operations
GMT	Greenwich Mean Time
GMU	GPS (height) Monitoring Unit
GNLU	Global Navigation and Landing Unit
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GPU	Ground Power Unit
GPWS	Ground Proximity Warning System
GS	Ground Speed
G/S	Glide Slope
GW	Gross Weight
H	Hour
HDG	Heading
HF	High Frequency (3 to 30 MHz)
HF	Human Factors
Hg	Mercury
HI	High (altitude or intensity)
HIALS	High Intensity Approach Light System
HIL	Holding Items List
HIRL	High Intensity Runway Lights
HKCAD	Hong Kong Civil Aviation Department
HMU	Height Monitoring Unit
HP	High Pressure
hPa	hecto Pascal
HSI	Horizontal Situation Indicator
HUD	Head Up Display
HYD	Hydraulic
Hz	Hertz (cycles per second)
IAF	Intermediate Approach Fix
IAP	Instrument Approach Procedure
IAS	Indicated Air Speed
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
ID	Identity (Number)
IDENT	Identification

IDG	Integrated Drive Generator
IEM	Interpretation/Explanation Material (JAR)
IFR	Instrument Flight Rules
IFSD	In-Flight Shut Down
IFTB	In-Flight Turn Back
IL	Information Leaflet
ILS	Instrument Landing System
IMC	Instrumental Meteorological Conditions
in, IN	Inch(es)
INFO	Information
INIT	Initialisation
INOP	Inoperative
INS	Inertial Navigation System
IOE	Initial Operating Experience
IRS	Inertial Reference System
ISA	International Standard Atmosphere
ISO	International Standard Organisation
JAA	Joint Aviation Authorities
JAR	Joint Aviation Regulations
kg, KG	kilogram
kHz	kilohertz
km, KM	kilometre
kt, KT	knot
l, L	Litre
LAT	Latitude
lb	pound (weight)
LCD	Liquid Crystal Display
LCN	Load Classification Number
LDA	Landing Distance Available
LDG	Landing
LEP	List of Effective Pages
L/G	Landing Gear
LH	Left Hand
LLZ	Localizer
LO	Low
LOAS	Line Operations Assessment System
LOC	Localizer
LOFT	Line Oriented Flight Training
LOMS	Line Operations Monitoring System
LONG	Longitude
LOP	Line Operations
LOVT	Low Visibility Takeoff
LP	Low Pressure
LPC	Less Paper Cockpit (Airbus concept)
LRNS	Long Range Navigation System
LROPS	Long Range Operations
LRU	Line Replaceable Unit
LSK	Line Select Key
LVL	Level
LVP	Low Visibility Procedures
LVTO	Low Visibility Take-Off
LW	Landing Weight
M	Mach
m, M	metre
MABH	Minimum Approach Break off Height
MAC	Mean Aerodynamic Chord
MAG	Magnetic
MAINT	Maintenance
MAN	Manual
MAP	Missed Approach Point
MASPS	Min. Aviation Systems Performance Standards
MAX	Maximum
mb, MB	Millibar
MBOH	Minimum Break Off Height
MCC	Multiple Crew Co-operation
MCC	Maintenance Control Centre
MCDU	Multipurpose Control and Display Unit
MCT	Maximum Continuous Thrust
MDA/H	Minimum Descent Altitude / Height
MEL	Minimum Equipment List
MET	Meteorological
METAR	Meteorological Aerodrome Report
MFF	Mixed Fleet Flying
MFT	Manager Flying Training
MHz	Megahertz
MID	Middle Runway Portion
MIALS	Medium Intensity Approach Light System
MIN	Minimum, Minute
MIRL	Medium Intensity Runway Light
MLO	Manager Line Operations
MLS	Microwave Landing System
MLW	Maximum Landing weight
mm, MM	Millimetre
MME	Maintenance Management Exposition
MMEL	Master Minimum Equipment List
MMO	Maximum Operating Mach
MMR	Multi Mode Receiver
MNPS	Min. Navigation Performance Specification
MOCA	Minimum Obstruction Clearance Altitude
MOE	Maintenance Organisation Exposition
MOR	Mandatory Occurrence Reporting
MORA	Minimum Off-Route Altitude
MRVA	Minimum Radar Vectoring Altitude
MSA	Minimum Safe (or Sector) Altitude
MSG	Message
MSL	Mean Sea Level
MSN	Manufacturer's Serial Number
MTBF	Mean Time Between Failure
MTOW	Maximum Take Off Weight
MWE	Manufacturer's Weight Empty
MZFW	Maximum Zero Fuel Weight
N/A	Not Applicable
NAI	Nacelle Anti Ice
NAT	North Atlantic
NAV	Navigation
NAVAID	(Radio) Navigation Aid
NCD	Non Computed Data
ND	Navigation Display
NDB	Non Directional Beacon
NIL	No Item Listed (Nothing)
NM	Nautical Miles
NOPAC	North Pacific
NORM	Normal
NOTAM	Notice To Airmen
NOTOC	Notice To Crew
NPA	Non Precision Approach
NTO	No Technical Objection
OAT	Outside Air Temperature
OBRM	On Board Replaceable Module
OCA/H	Obstacle Clearance Altitude / Height
OCC	Operational Control Centre
OEB	Operations Engineering Bulletin
OEW	Operating Empty Weight
OIT	Operator Information Telex
OM	Outer Marker
OM	Operations Manual
ONC	Operational Navigation Chart
OPS	Operations

OPT	Optimum
OTS	Oceanic Track System
OXY	Oxygen
PA	Passenger Address
PAC	Pacific
PACOTS	Pacific Oceanic Track System
PANS	Procedures for Air Navigation Services
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
PAX	Passenger
PB	Pushbutton
PCN	Pavement Classification Number
PERF	Performance
PF	Pilot Flying
PFD	Primary Flight Display
PIREP	Pilot Report
PIC	Pilot In Command
PM	Pilot Monitoring
P/N	Part Number
PNR	Point of No Return
POS	Position
PPM	Policy and Procedures Manual
PROC	Procedure
PROF	Profile
PPR	Prior Permission Required
PSI	Pounds per Square Inch
PT	Point
PTS	Polar Track System
PVI	Paravisual Indicator
PWR	Power
QA	Quality Assurance
QAR	Quick Access Recorder
QDM	Magnetic bearing to facility
QDR	Magnetic bearing from facility
QFE	Field elevation atmosphere pressure
QFU	Magnetic orientation of runway
QGH	Procedure or facility to be used
QNE	Sea level standard atmosphere (1013 hPa or 29.92" Hg)
QNH	Sea level atmosphere pressure
QRH	Quick Reference Handbook
RA	Radio Altitude/Radio Altimeter
RA	Resolution Advisory
RAIM	Receiver Autonomous Integrity Monitoring
RAS	Repair Approval Sheet
RAT	Ram Air Turbine
REF	Reference
REV	Reverse
RH	Right Hand
R/I	Radio Inertial
RMI	Radio Magnetic Indicator
RNAV	Area Navigation
RNP	Required Navigation Performance
RPL	Repetitive flight plan
RPM	Revolutions Per Minute
RQRD	Required
RSV	Reserves
RTA	Required Time of Arrival
RTCA	Requirements and Technical Concepts for Aviation
RTO	Rejected Take Off
RTOW	Regulatory Take Off Weight
RVR	Runway Visual Range
RVSM	Reduced Vertical Separation Minima
RWY	Runway
SAE	Society of Automotive Engineers
SARPS	Standards And Recommended Practices
SAT	Static Air Temperature
SATCOM	Satellite Communication
SATVOICE	Satellite Voice Communication
SB	Service Bulletin
SEL	Selector
SELCAL	Selective Calling
SFE	Seller Furnished Equipment
SI	International System of units
SID	Standard Instrument Departure
SIGMET	Significant Meteorological report
SIL	Service Information Letter
SITA	Société Internationale de Télécommunications Aéronautiques
SOP	Standard Operating Procedures
SOPAC	South Pacific
SPECI	Aviation selected special weather report
SPD	Speed
SRA	Surveillance Radar Approach
SRE	Surveillance Radar Element of precision approach radar system
SSR	Secondary Surveillance Radar
STAR	Standard Terminal Arrival Route
STD	Standard
STS	Status
SYS	System
t, T	Ton, Tonne, Temperature
TA	Traffic Advisory
TACAN	Tactical Air Navigation
TAF	Terminal Aerodrome Forecast
TAS	True Air Speed
TAT	Total Air Temperature
TAWS	Terrain Awareness and Warning System
TBC	To Be Confirmed
TBD	To Be Determined/Defined
TCAS	Traffic alert and Collision Avoidance System
TDZ	Touch Down Zone
TEMP	Temperature
TEMPO	Temporary
TERPS	(US) Standards for Terminal Instrument Procedures
TFU	Technical Follow-Up
THR	Thrust
THS	Trimmable Horizontal Stabiliser
TK	Tank
TLA	Thrust Lever Angle
TMA	Terminal Manoeuvring Area
T/O	Take-Off
TOC	Top Of Climb
TOD	Top Of Descent
TODA	Take-Off Distance Available
TOGA	Take-Off/Go-Around
TOGW	Take-Off Gross Weight
TORA	Take-off Run Available
TOW	Take-Off Weight
TR	Temporary Revision
TRE	Type Rating Examiner
TRI	Type Rating Instructor
TRK	Track
TRTO	Type Rating Training Organisation
TVMC	Minimum Control Speed Temperature
TWR	Tower
TWY	Taxiway
UHF	Ultra High Frequency (300 - 3000 MHz)

UIR	Upper Information Region
ULD	Unit Load Device
UM	Unaccompanied Minor
US	United States
U/S	Unserviceable
UTC	Universal Time Co-ordinated
V	Volt
V1	Critical engine failure speed
V2	T/O safety speed
VAPP	Final Approach Speed
VASI	Visual Approach Slope Indicator
VDF	Very high frequency Direction Finding
VDR	Very high frequency Data Radio
VFE	Maximum Velocity Flaps/slats Extended
VFR	Visual Flight Rules
VFTO	Velocity Final T/O
VHF	Very High Frequency (30 - 300 MHz)
VMC	Visual Meteorological Conditions
VMCA	Minimum Control Speed in the Air
VMCG	Minimum Control Speed on Ground
VMIN	Minimum operating speed
VMO	Maximum operating speed
VOR	VHF Omni-directional Range
VR	Rotation speed
VREF	Landing reference speed
VS	Stall speed
V/S	Vertical Speed
VSI	Vertical Speed Indicator
WAI	Wing Anti Ice
WBM	Weight and Balance Manual
WGD	Windshield Guidance Display
WGS	World Geodetic System
WPT	Waypoint
WX	Weather
WXR	Weather Radar
XCVR	Transceiver
XFR	Transfer
XMTR	Transmitter
XTK	Cross track error
Z	Zulu time (UTC)
ZFCG	Zero Fuel Centre of Gravity
ZFW	Zero Fuel Weight

0.1.6 DEFINITIONS

Note: Where necessary, specific terms are defined at the beginning of the sections to which they are appropriate.

Accountable Manager: The person acceptable to the Authority who has corporate authority for ensuring that all operations and maintenance activities can be financed and carried out to the standard required by the Authority and any additional requirements defined by the operator.

Accelerate-Stop Distance Available: The length of the takeoff run available plus the length of stopway, if such stopway is declared available by the appropriate Authority and is capable of bearing the mass the aeroplane under the prevailing operating conditions

Adult: Adult, male and female, is defined as person of an age of 12 years and above.

Aerodrome: A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Aerodrome elevation: The elevation of the highest point of the landing area.

Aeronautical Information Publication: A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

Aircraft (Aeroplane) Flight Manual: A manual, associated with the certificate of airworthiness, containing limitations within which the aircraft is to be considered airworthy, and instructions and information necessary to the flight crew members for the safe operation of the aircraft.

Aircraft identification: A group of letters, figures or a combination thereof which is either identical to, or the coded equivalent of, the aircraft call sign to be used in air-ground communications, and which is used to identify the aircraft in ground-ground air traffic services communications.

Air Operator Certificate (AOC): A certificate authorising an operator to carry out specified commercial air transport operations

Airprox incident: A situation in which, in the opinion of a pilot or controller, the distance between aircraft as well as their relevant positions and speed have been such that the safety of the aircraft involved was or may have been compromised.

Air traffic: All aircraft in flight or operating on the manoeuvring area of an aerodrome.

Air Traffic Control: A service that promotes the safe, orderly, and expeditious flow of air traffic at aerodromes and during the approach, departure, and en route environments.

Air traffic control clearance: Authorisation for an aircraft to proceed under conditions specified by an air traffic control unit.

Air traffic control instruction: Directives issued by air traffic control for the purpose of requiring a pilot to take a specific action.

Air traffic control service: A service provided for the purpose of:

- Preventing collisions between aircraft, and on the manoeuvring area between aircraft and obstructions
- Expediting and maintaining an orderly flow of air traffic.

Air traffic service: A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

Airway: A control area or portion thereof established in the form of a corridor

equipped with radio navigation aids.

Airworthiness release: A certification signed by a licensed mechanic authorised by the AOC holder indicating that work was performed in accordance with the AOC holder's maintenance manual, was inspected by a licensed mechanic, and the aircraft was found satisfactory for safe operation.

Alerting service: A service provided to notify appropriate organisations regarding aircraft in need of search and rescue aid, and assist such organisations as required.

Alternate aerodrome: An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing. Alternate aerodromes include the following:

Take-off alternate: An alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.

En-route alternate: An aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en route.

Destination alternate: An alternate aerodrome to which an aircraft may proceed should it become impossible or inadvisable to land at the aerodrome of intended landing.

Note: The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.

Altitude: The vertical distance of a level, a point or an object considered as a point, measured from mean sea level.

Appropriate authority: (see also Authority)

- Regarding flight over the high seas: the relevant authority of the State of Registry.
- Regarding flight other than over the high seas: the relevant authority of the State having sovereignty over the territory being over flown.

Approved: The Authority has reviewed the method, procedure or policy in question and issued a formal written approval.

Apron: A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.

Aquaplaning (or hydroplaning): is a situation where the tires of the aircraft are, to a large extent, separated from the runway surface by a thin fluid film.

ATS route: A specified route designed for channelling the flow of traffic as necessary for the provision of air traffic services.

Note: The term "ATS route" is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure route, etc.

Authority: The competent body responsible for the safety of civil aviation in the state of the applicant or operator.

Base training: Flight training required by Airworthiness Authorities to obtain the aircraft type rating.

Braking action: a report on the conditions of the airport movement areas, providing pilots the quality or degree of braking that may be expected. Braking action is reported in terms of: good, medium to good, medium, medium to poor, poor, nil or unreliable.

Calendar day: The period of elapsed time, using Co-ordinated Universal Time or local time, that begins at midnight and ends 24 hours later in the next midnight

Cabin attendant: A crew member who performs, in the interest of safety of passengers, duties assigned by the operator or the commander of the aircraft, but who shall not act as a flight crew member.

Children: person who is of an age of two years and above but who are less than 12 years of age.

Certifying staff: Those personnel who are authorised by the Approved Maintenance Organisation in accordance with a procedure acceptable to the Authority to certify aircraft or aircraft components for release to service.

Circling: The visual phase of an instrument approach to bring an aircraft into position for landing on a runway which is not suitably located for a straight-in approach.

Civil aircraft: Any aircraft on the civil register of a state, other than those which that state treats as being in the service of the state, either permanently or temporarily.

Commander: The pilot designated by the operator responsible for the operation and safety of the aircraft during flight time. He may delegate the conduct of the flight to another suitable qualified pilot. (See Pilot-in- command)

Commercial air transport operation: An aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire.

Contaminated runway: A runway is considered to be contaminated when more than 25% of the runway surface area (whether in isolated areas or not) within the required length and width being used is covered by the following:

- Surface water more than 3 mm (0.125 in) deep, or by slush, or loose snow, equivalent to more than 3 mm (0.125 in) of water; or
- Snow which has been compressed into a solid mass which resists further compression and will hold together or break into lumps if picked up (compacted snow); or
- Ice, including wet ice

Contingency fuel: A quantity of fuel carried to compensate for items such as:

- Deviations of an individual aeroplane from expected fuel consumption data
- Deviations from forecast meteorological conditions
- Deviations from planned routings and/or cruising levels/altitude

Co-pilot: Pilot serving in any piloting capacity other than as pilot in command or commander, but excluding a pilot who is on board the aircraft for the sole purpose of receiving flight instruction for a license or rating.

Course: A program of instruction to obtain an airman license, rating, qualification, authorisation, or currency.

Crewmember: A person assigned by an operator to duty on an aircraft during flight time.

Crew Resource Management (CRM): A program designed to improve the safety of flight operations by optimising the safe, efficient, and effective use of human resources, hardware, and information through improved crew communication and co-ordination.

Critical phases of flight: Those portions of operations involving taxiing, takeoff and landing, and all flight operations below 10,000 feet, except cruise flight

Cross Crew Qualification (CCQ): An Airbus Industrie term for applying the concepts of FAA AC 120-53 to related aircraft type like the A320, A330, A340. The term is intended to provide for the carryover of credit from one aircraft type to another based on the common design characteristics, and if applicable to transition between types as well as mixed fleet flying of different types of aircraft.

Cruising level: A level maintained during a significant portion of a flight.

Damp runway: A runway is considered damp when the surface is not dry, but when the moisture on it does not give it a shiny appearance.

Dangerous good: Articles or substances that are capable of posing significant risk to health, safety or property when transported by air and which are classified according to ICAO Technical Instructions.

Decision altitude/height (DA/DH): A specified altitude or height (A/H) in the precision approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

Note 1: "Decision altitude (DA)" is referenced to mean sea level (MSL) and "decision height (DH)" is referenced to the threshold elevation.

Note 2: The "required visual reference" means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path.

Dry lease: Is when the aeroplane is operated under the AOC of the lessee.

Dry runway: A dry runway is one which is neither wet nor contaminated, and includes those paved runways which have been specially prepared with grooves or porous pavement and maintained to retain “effectively dry” braking action even when moisture is present.

Elevation: The vertical distance of a point or a level, on or affixed to the surface of the earth measured from mean sea level.

Exemption: A formal authorisation issued by the Authority providing relief from part or all of the provisions of a regulation. The authorisation may or may not be conditional.

Extended over-water operation: An operation over water at a horizontal distance of more than 50 NM from the nearest shoreline.

Fail-Operational flight control system: A flight control system is fail-operational if, in the event of a failure below alert height, the approach, flare and landing, can be completed automatically. In the event of a failure, the automatic landing system will operate as a fail-passive system.

Fail-Passive flight control system: A flight control system is fail-passive if, in the event of a failure, there is no significant out-of-trim condition or deviation of flight path or attitude but the landing is not completed automatically. For a fail-passive automatic flight control system the pilot assumes control of the aeroplane after a failure.

Filed flight plan: The flight plan as filed with an ATS unit by the pilot or his designated representative, without any subsequent changes.

Note: When the word "message" is used as a suffix to this term, it denotes the content and format of the filed flight plan data as transmitted.

Final reserve fuel: An amount of fuel for all turbine powered aeroplanes, calculated to fly 30 minutes at holding speed at 1500 ft above the aerodrome elevation in standard conditions, calculated with the estimated mass on arrival at the alternate or the destination, when no alternate is required.

Flight control system: A system which includes an automatic landing system

Flight crewmember: A licensed crewmember charged with duties essential to the operation of an aircraft during flight time.

Flight level: A surface of constant atmospheric pressure which is related to a specific pressure datum, 1013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals.

Note 1: A pressure type altimeter calibrated in accordance with the Standard Atmosphere:

- When set to QNH altimeter setting, will indicate altitude

- When set to QFE altimeter setting, will indicate height above the QFE reference datum
- When set to a pressure of 1 013.2 hectopascals (hPa) may be used to indicate flight levels.

Note 2: The terms "height" and "altitude", used in Note 1 above, indicate altimetric rather than geometric heights and altitudes.

Flight plan:
- **ATS Flight Plan:** Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.
- **Operational flight plan:** The operator's plan for the safe conduct of the flight based on considerations of aircraft performance, other operating limitations, and relevant expected conditions on the route to be followed and at the aerodromes or heliports concerned.

Flow control: Measures designed to adjust the flow of traffic into a given airspace, along a given route, or bound for a given aerodrome, so as to ensure the most effective utilisation of the airspace.

Friction coefficient: Relationship between the friction force acting on the wheel and the normal force on the wheel. The normal force depends on the weight of the aircraft and the lift of the wings.

Glide path: A descent profile determined for vertical guidance during a final approach.

Ground visibility: The visibility at an aerodrome, as reported by an accredited observer.

Heading: The direction, in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid).

Height: The vertical distance of a level, a point or an object, measured from a specified datum.

Hydroplaning: Refer to Aquaplaning

Infant: A person who is less than two years of age.

Initial Operating Experience (IOE): Operational support given to pilots newly type rated. The objective of IOE is to improve the efficiency of pilots in revenue operation, route and airport qualification using only the Airbus or the airline approved documents: FCOM, MEL and OEBs

Inspection: The examination of an aircraft or aeronautical product to establish conformity with a standard approved by the Authority.

Instrument approach procedure: A series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix or, where applicable, from the beginning of defined arrival route, to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply.

Instrument meteorological conditions: Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.

JAA operator: An operator certificated under JAR–OPS Part 1 by one of the JAA Member States.

Journey log: A form signed by the Commander of each flight that records the aeroplane's registration, crew member names and duty assignments, the type of flight, and the date, place, and time of arrival and departure

Low Visibility Procedures: Procedures applied at an aerodrome for the purpose of ensuring safe operations during Category II and III approaches and Low Visibility

Takeoffs.

Low Visibility Take-Off: A take-off where the Runway Visual Range (RVR) is less than 400 m.

Maintenance: Tasks required to ensure the continued airworthiness of an aircraft or aeronautical product including any one or combination of overhaul, repair, inspection, replacement, modification, and defect rectification.

Maintenance release: A document containing a certification that inspection and maintenance work has been performed satisfactorily in accordance with the methods prescribed by the Authority.

Missed approach procedure: The procedure to be followed if the approach cannot be continued.

Net flight path: Is a flight path determined for engine(s) failure case. It is established in such a manner that it represents the actual climb performance diminished by a gradient of climb of:

- Take-off (one engine failure):
  0.8 % for two-engine aircraft 0.9 % for three-engine aircraft
  1% for four-engine aircraft
- En-route (one engine failure):
  1.1 % for two-engine aircraft 1.4 % for three-engine aircraft
  1.6 % for four-engine aircraft
- En-route (two engine failure):
  0.3 % for three-engine aircraft 0.5 % for four-engine aircraft

Night: The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise. Civil twilight ends in the evening when the centre of the sun's disc is 6 degrees below the horizon and begins in the morning when the centre of the sun's disc is 6 degrees below the horizon.

Non-precision approach: Instrument approach with lateral guidance only from the FAF to the runway environment. Descent limit is the MDA, and obstacle clearance (including go-around) is guaranteed if the approach is discontinued no farther than the MAP. Approaches with lateral guidance from localiser, VOR, NDB or GPS are considered non-precision approaches. Although often a helpful tool for lateral and vertical navigation during approach, FMS guidance is not a certified approach aid.

NOTAM: A notice containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

- Class I distribution: Distribution by means of telecommunication
- Class II distribution: Distribution by means other than telecommunication

Obstacle clearance altitude/height (OCA/H): The lowest altitude (OCA), or alternatively the lowest height above the elevation of the relevant runway threshold or above the aerodrome elevation as applicable (OCH), used in establishing compliance with the appropriate obstacle clearance criteria.

Operational control: The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight.

Operator: A person, organisation or enterprise engaged in or offering to engage in an aircraft operation.

Pilot Flying (PF): The pilot, who for the time being, is in charge of the controls of an aircraft.

Pilot-in-command: Pilot responsible of the operations and safety.

Pilot Monitoring (PM): The pilot who is assisting the pilot flying in accordance with the multi-crew co-operation concept, when the required flight crew is more than one.

Precision approach: Instrument approach with lateral and vertical guidance from the FAP to the runway touchdown zone, with system accuracy, integrity and obstacle clearance (including go-around) guaranteed until the descent limit (decision altitude or decision height) is reached. ILS, MLS and PAR are considered precision approaches.

Pre-flight inspection: The inspection carried out before flight to ensure that the aircraft is fit for the intended flight.

Pressure-altitude: An atmospheric pressure expressed in terms of altitude, which corresponds to that pressure in the Standard Atmosphere.

Quality Assurance: All those planned and systematic actions necessary to provide adequate confidence that operational and maintenance practices satisfy given requirements.

Quality System: The organisational structure, responsibilities, procedures and resources for implementing quality management. (Refer to Chapter 3)

Rating: An authorisation entered on or associated with a license or certificate and forming part thereof, stating special conditions, privileges or limitations pertaining to such license or certificate.

Repair: The restoration of an aircraft/aeronautical product to a serviceable condition in conformity with an approved standard.

Repetitive flight plan (RPL): A flight plan related to a series of frequently recurring, regularly operated individual flights with identical basic features, submitted by an operator for retention and repetitive use by ATS.

Reporting point: A specified geographical location in relation to which the position of an aircraft can be reported.

Required Navigation Performance (RNP): A statement of the navigation performance accuracy necessary for operation within a defined airspace.

Runway: A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

Runway visual range: The range over which the pilot of an aircraft on the centreline of a runway can see the runway surface markings or the lights delineating the runway or identifying its centreline.

SIGMET information: Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations.

Slush: Water-saturated snow which with a heel-and-toe slap-down motion against the ground will be displaced with a splatter; specific gravity: 0.5 up to 0.8

Snow (on the ground):

- Dry snow: Snow which can be blown if loose or, if compacted by hand, will fall apart upon release; specific gravity: up to but not including 0.35.
- Wet snow: Snow which, if compacted by hand, will stick together and tend to or form a snowball; specific gravity: 0.35 up to but not including 0.5.
- Compacted snow: Snow which has been compressed into a solid mass that resists further compression and will hold together or break up into chunks if picked up; specific gravity: 0.5 and over.

Stabilised approach: An approach without speed and/or configuration changes during final descent.

Stabilised approach procedure: An approach procedure along the extended runway centreline with a constant, in-flight verifiable descent gradient from the final approach

altitude to the runway touchdown zone. Except for offset-localizer approaches, an ILS approach is inherently a stabilised approach procedure. Non-precision approaches can be constructed as a stabilised approach procedure by choosing the FAF accordingly and by publishing a distance-versus-altitude (VOR+DME, NDB+DME, LOC+DME) or waypoint-versus-altitude table (GPS) to be able to verify adherence to the (imaginary) glidepath.

Taxiing: Movement of an aircraft on the surface of an aerodrome under its own power, excluding takeoff and landing.

Taxiway: A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another.

Technical log: A document carried on an aircraft that contains information to meet ICAO requirements; a technical log contains at least two independent sections: a journey record section and an aircraft maintenance record section.

Threshold: The beginning of that portion of the runway usable for landing.

Track: The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (true, magnetic or grid).

Transition altitude: The altitude at or below which the vertical position of an aircraft is controlled by reference to altitudes.

Transition level: The lowest flight level available for use above the transition altitude.

UN number: The four-digit number assigned by the United Nations Committee of experts on the transport of dangerous goods to identify a substance or a particular group of substances.

Visibility: The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night.

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

Visual meteorological conditions: Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima.

Waypoint: A specified geographical location used to define an area navigation route or the flight path of an aircraft employing area navigation.

Wet lease: Is when the aeroplane is operated under the AOC of the lessor

(ACMI: Aircraft/Crew/Maintenance/Insurance).

Wet runway: A runway is considered wet when the runway surface is covered with water, or equivalent, less than or equal to 3 mm or when there is sufficient moisture on the runway surface to cause it to appear reflective, but without significant areas of standing water.

0.1.7 UNITS CONVERSION TABLE

	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 statute mile	1 in = 25.4 mm 1 ft = 0.3048 m 1 yd = 0.914 m 1 NM = 1.852 km 1 statute mile = 1.609 km
SPEED	1 m/s = 3.281 ft/s = 1.944 kt 1 km/h = 0.54 kt	1 ft/s = 0.3048 m/s 1 kt = 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 l = 0.2642 US Gallon 1 m3 = 264.2 US Gallons 1 l = 1.0567 US Quart	1 US Gallon = 3.785 l 1 US Gallon = 0.003785 m3 1 US Quart = 0.94635 l
MOMENTUM	1 m.daN = 88.5 lb.in	1 lb.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

0.1.8 INTERNATIONAL STANDARD ATMOSPHERE (ISA)

ALTITUDE (Feet)	TEMP. (°C)	PRESSURE			PRESSURE RATIO δ = P/Po	DENSITY σ = ρ/ρo	SPEED of SOUND (kt)	ALTITUDE (metres)
		hPa	PSI	In.Hg				
40 000	- 56.5	188	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	- 30.6	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	5 406
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	595	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	1.0295	664	- 305

0.2 SYSTEM OF AMENDMENT AND REVISION

0.2.1 AMENDMENTS TO THE OPERATIONS MANUAL

0.2.1.1 POLICY

Revisions to KA OM/QRH will take into account operating requirements and human factors principles. Revisions shall not conflict with manufacturers AFM, without their approval.

Revisions to FCOM and the Quick Reference Hand Book will be based on the Airbus Industrie official revision service, issued after review and customization by Airbus Fleet Office.

Only the General Manager Operations may issue Revisions to the approved Flight Time Limitations Scheme, as it requires prior approval by HKCAD.

Revisions to other KA OM are the responsibility of the respective Manual Owner as listed in Part A 0.2.2.

0.2.1.2 REVISION PROCEDURE

Operations Manuals revisions can be proposed by all Operations Department Managers or their Deputies through the respective Manual Owner.

Proposed revisions must be accompanied by a completed DRAGONAIR OPERATIONS MANUAL REVISION SHEET (form KA/OPS/19 Rev7 01Oct2009). This can be downloaded from the 'kafs01', opsfopcommon/standardsation forms. (See example in next page).

All proposed revisions, except to OM Vol.6 & Part D, are to be checked and approved by the CPA, MFT, MLO and the respective Manual Approver and submitted to AGMF for final approval. Part D only requires approval from MFT and AGMF. OM Vol.6 only requires approval from the respective Manual Approver and AGMF.

Changes to Standard Procedures must be subject to a risk assessment, normally conducted by Line Ops, as detailed in LOP PPM 3.29. The MFT is responsible for ensuring the Training Department is aware of such changes, and any consequential amendments to training material.

If the proposed revision changes sections of other Operations Manuals, an accompanying revision is also to be submitted, ensuring that associated revisions are incorporated simultaneously.

Flight Crew Operations Notices or KA Technical Bulletins affected by the revision should be reviewed for removal.

It is the responsibility of the Manager submitting the proposed revision to ensure all relevant departments are made aware of its impact.

Revisions, other than the issue of completely new pages, will have a vertical line in the margin to mark the revised text.

Records of the revisions will be kept by the Flight Publications Section.

RECORD OF CHANGES

Records of changes to the Operations Manuals, made iaw the Operations Manual Revision process detailed in Part A 0.2.1.2, are to be kept by the Flight Publications ection for audit purposes.

The AGMO and AGMF will only consider approving Standardisation changes after satisfying themselves that the risk management assessment process has been followed.

HONG KONG DRAGON AIRLINES LTD.
OPERATIONS MANUAL REVISION SHEET

DRAGONAIR

Revision – Routine / Priority*

OM Volume Manuals Section Use ONLY		Rev No:		Date:	

MANUAL REVISION:

Affected Manual:	Section:	Submitted By: (Manual Owner)	Date:

DOES THIS CHANGE AFFECT OTHER MANUALS OR NOTICES? .....

Operations Manual or Notice Affected:	Section:

DOES THIS REVISION CHANGE POLICY OF SOPs? .....

DOES THIS REVISION AFFECT MANUALS/PROCEDURES OF OTHER DIVISIONS? .....

IF SO, ENSURE THAT THE DEPARTMENT IS INFORMED.

DESCRIPTION OF CHANGES:

MANUAL REFERENCE	SUMMARY OF REVISION

CHECKED AND APPROVED BY:

CP	DATE	MLO	DATE
MFT	DATE	RESPECTIVE MANUAL APPROVER (if different)	DATE

APPROVED / REJECTED:

AGMF	DATE:

0.2.2 MANUAL OWNERSHIP AND CONTENTS

1. PURPOSE

   To ensure that Flight Operations Manuals ownership is identified and their contents are defined.

2. RESPONSIBILITY

   The responsibility for the contents of all the manuals rests with GMO, however the ownership and authority to approve changes to the various manuals is delegated by GMO in accordance with and by this procedure.

3. PROCEDURE

   The table in Part A 0.2.2.1 identifies the manuals controlled by their owners, approvers and contents. The amendment process for all manuals is covered in the Operational Services – Flight Publications Section PPM, and Part A 0.2.1.

4. DEFINITIONS/ABBREVIATIONS

   Owner means the person directly responsible for maintaining the contents and decides the distribution of a particular document or manual. (The activity for manual ownership may be further delegated by the owner but not the responsibility.)

   Approver means the person responsible for approving the contents of a particular document or manual and is different person from the owner.

0.2.2.1 MANUAL OWNERSHIP TABLE

MANUAL	CHAPTER	OWNER	APPROVER	CONTENTS
PART A				General / Basic (Policy Procedures and Requirements)
(replace Vol.8 & Vol.12)	Chapter 0	AGMF	GMO	Administration & Control of Operations Manual
	Chapter 1	AGMF/AGMO	GMO	Organisation & Responsibilities
	Chapter 2	AGMF	GMO	Operational Control & Supervision
	Chapter 3	MOSQ	GMO	Quality System
	Chapter 4	AGMO	GMO	Crew Composition
	Chapter 5	MFT	AGMF	Qualification Requirements
	Chapter 6	MA	AGMO	Crew Health Precautions
	Chapter 7	AGMO	GMO	Flight Time Limitations
	Chapter 8	MLO	AGMF	Operating Procedures
	Chapter 9	MLO	AGMF	Dangerous Goods & Weapons
	Chapter 10	MLO	AGMF	Security
	Chapter 11	HCSQ	GMO	Handling, Notifying & Reporting Occurences
	Chapter 12	--	--	Rules of The Air – N/A
	Chapter 13	--	--	Leasing – N/A
	Chapter 14	MA	AGMO	General Crew Regulations & Administration
PART B				Airplane Operating Matters (Aircraft Operations Manual - AOM)
FCOM		CPA	AGMF	GEN, DSC, PRO, LIM, OEB, FCB, PER
FCTM		CPA	AGMF	Flight Crew Training Manual
QRH		CPA	AGMF	Quick Reference Handbook
Vol.9		CPA	AGMF	Aircraft Performance & ACARS Procedures
Vol.7		MGT	AGMF	Emergency Procedures
	Chapter 1 (7.1.15 - 7.1.17)	MLO	AGMF	Security
Vol.6 – A320/1		TM	MMS(ENG)/CPA	MEL & CDL
DDG – A330		TM	MMS(ENG)/CPA	MEL & CDL
AFM		TM	CPA	Airplane Flight Manual
WBM		TM	CPA	Weight & Balance Manual
PART C				Route and Airport Instructions and Information
Vol.5		MLO	AGMF	Route Manual / Port Page
PART D				Training
(replace Vol.10)		MFT	AGMF	Training

MANUAL	CHAPTER	OWNER	APPROVER	CONTENTS
OTHERS				
Vol.11	Chapter 1	M-P&B	H-CS&OPS	History and General Administration
	Chapter 2	CSD-M	H-CS&OPS	Inflight Policies and Standards
	Chapter 3	AM-CS	H-CS&OPS	Safety Policies
	Chapter 4	AM-CS	H-CS&OPS	Security
	Chapter 5	AM-OPS	H-CS&OPS	Accident Procedures
	Chapter 6	M-COPS	H-CS&OPS	Catering, Equipment and Amenities
	Chapter 7	M-P&B	GMO	Approved Flight Time Limitations Scheme
	Chapter 8	CSD-M	H-CS&OPS	Aircraft Introduction
Operational Notices		Dept Head	AGMF/AGMO	
Flight Crew Notices		Dept Head	AGMF/AGMO	
AEX Vol.1		MFT	AGMF	
AEX Vol.2		MFT	AGMF	
AEX Vol.3		MFT	AGMF	

0.2.3 RECORD OF NORMAL REVISIONS

When receiving a revision, insert the REV DATE and INCORPORATED BY/DATE box.

Remark: The REV dates indicated hereafter are the issue date of this Manual:

REV NO/DATE		INCORPORATED	
		BY	DATE
00			
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			

REV NO/DATE		INCORPORATED	
		BY	DATE
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			

TABLE OF CONTENT

1 ORGANIZATION AND RESPONSIBILITIES

1.1 GENERAL

This chapter describes the general functions and responsibilities of individual persons in the Dragonair Flight Operations Department.

It serves to inform the crew members of the general structure and the appointed responsibilities of these individual persons. Detailed information is published in the Corporate Quality Manual.

The Flight Operations Department shall ensure the availability of Organization Charts and Terms of Reference which define the responsibility, authority and the interrelation of personnel who manage, perform and verify work affecting quality (level B and above). However individuals are responsible for their own work in the course of achieving business objectives. Where delegations of authority are exercised by Flight Operations staff on behalf of HKCAD (e.g. Authorized Examiner) the applicable policies and procedures defined by the delegate shall be strictly adhered to.

1.1.1 AIR OPERATOR CERTIFICATE RESPONSIBILITIES

The AOC gives the Company the legal right to operate aircraft on a public transport undertaking. Holders of an AOC are required to carry out a number of activities to maintain the validity of the AOC strictly in accordance with HKCAD requirements.

The Organisational Structure & Company Organisation diagrams specify the positions that are responsible for the required functional activities.

1.1.2 INTERDEPARTMENTAL FLIGHT SAFETY DEPENDENCIES

The Organisational Structure & Company Organisation diagrams identify the internal dependencies between the Operations Division and those departments of DRAGONAIR that have responsibilities for AOC activities.

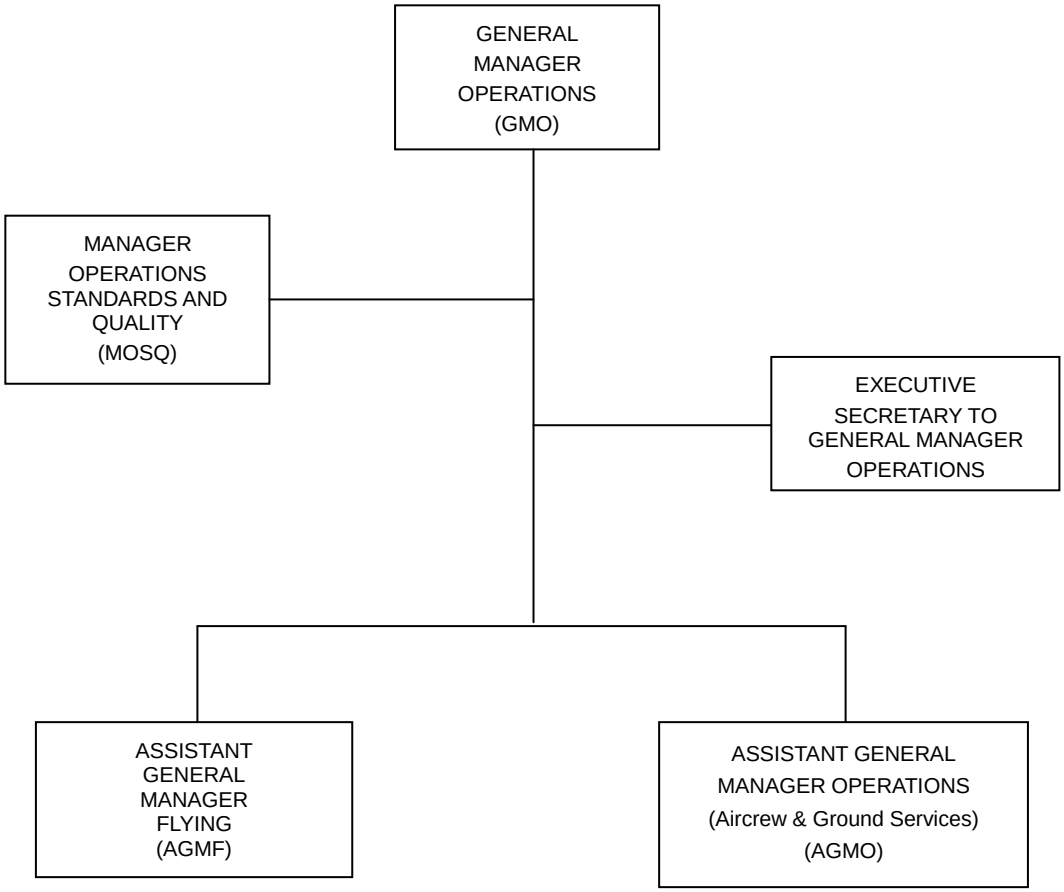
1.1.3 SERVICE LEVEL AGREEMENT

To ensure a clear understanding of the product/service required, it is recommended that service level agreements are drawn up to include overlapping areas of responsibility.

1.2 ORGANISATIONAL STRUCTURE

The following organisation charts depict the company and the flight operations department organisational structure.

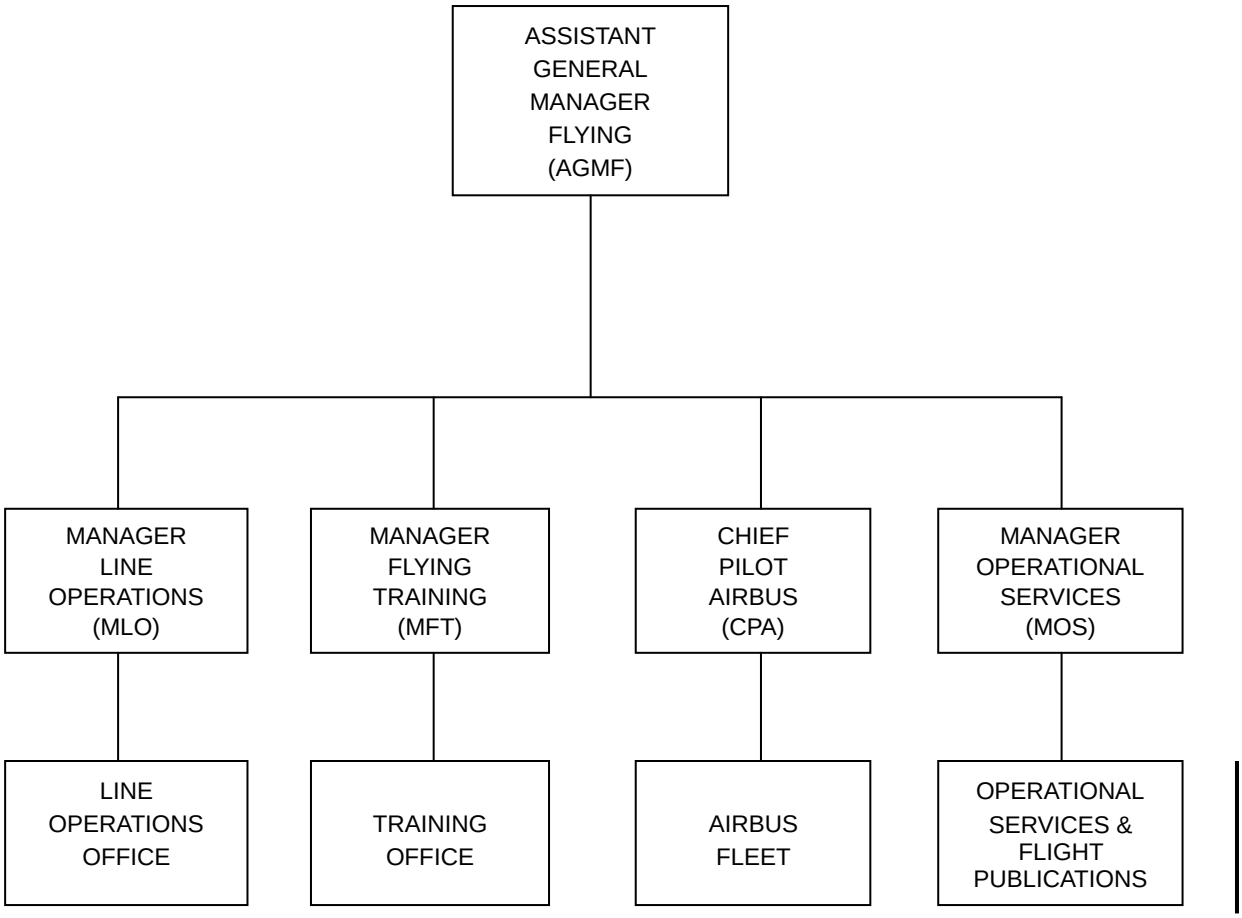
OPERATIONS DIVISION ORGANISATION CHART



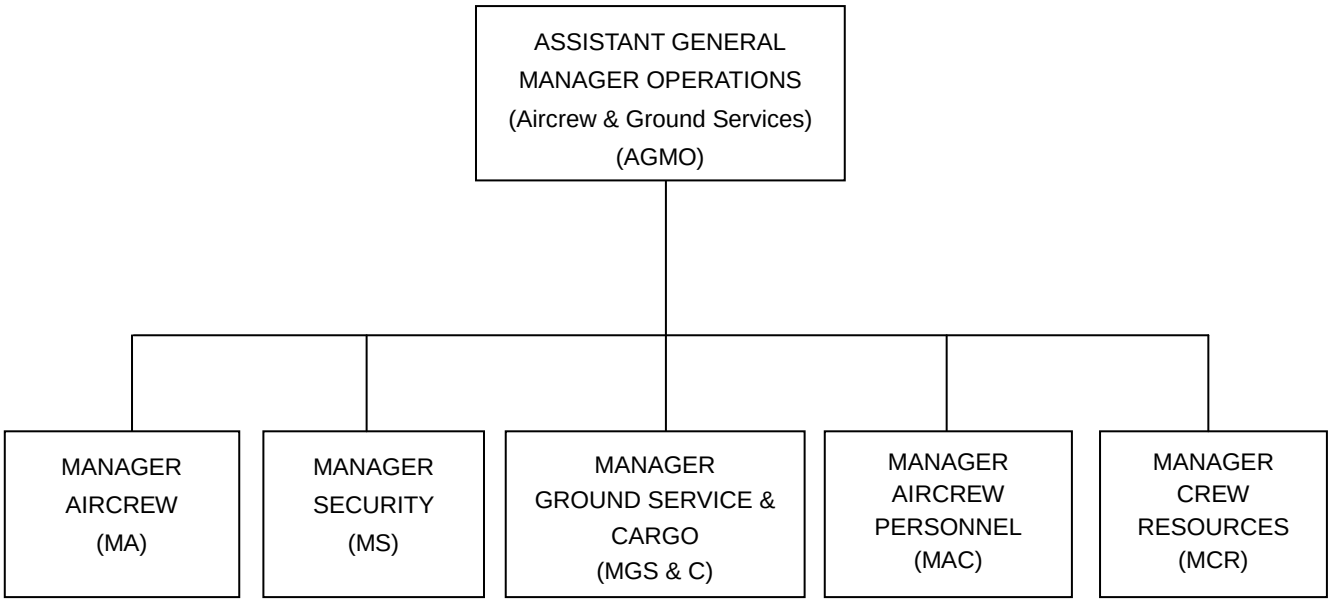
Note: Positions not linked vertically do not show relative status in the organisation.

1.2.1 COMPANY ORGANISATION

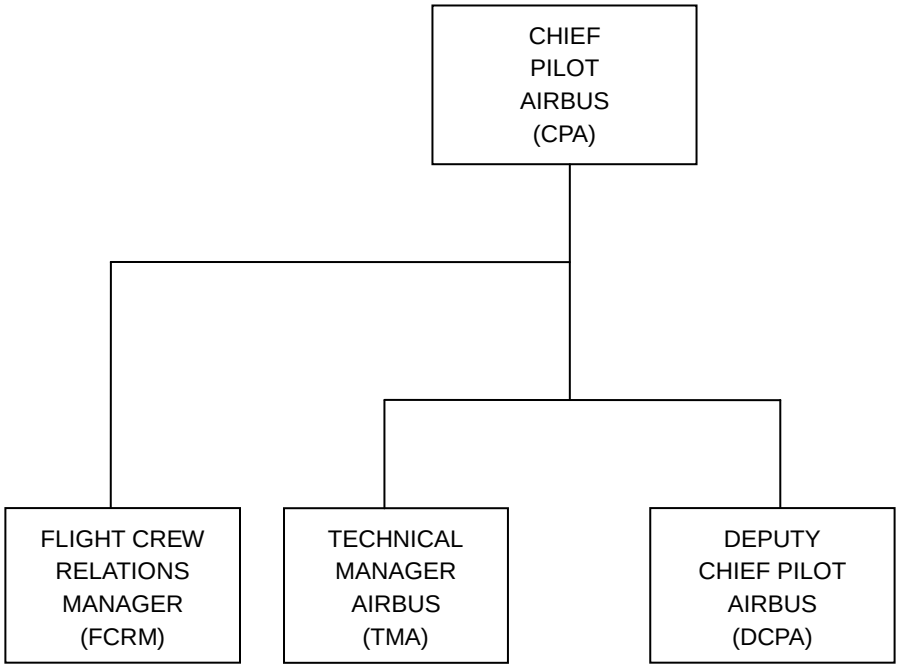
FLIGHT OPERATIONS DEPARTMENT ORGANISATION CHART



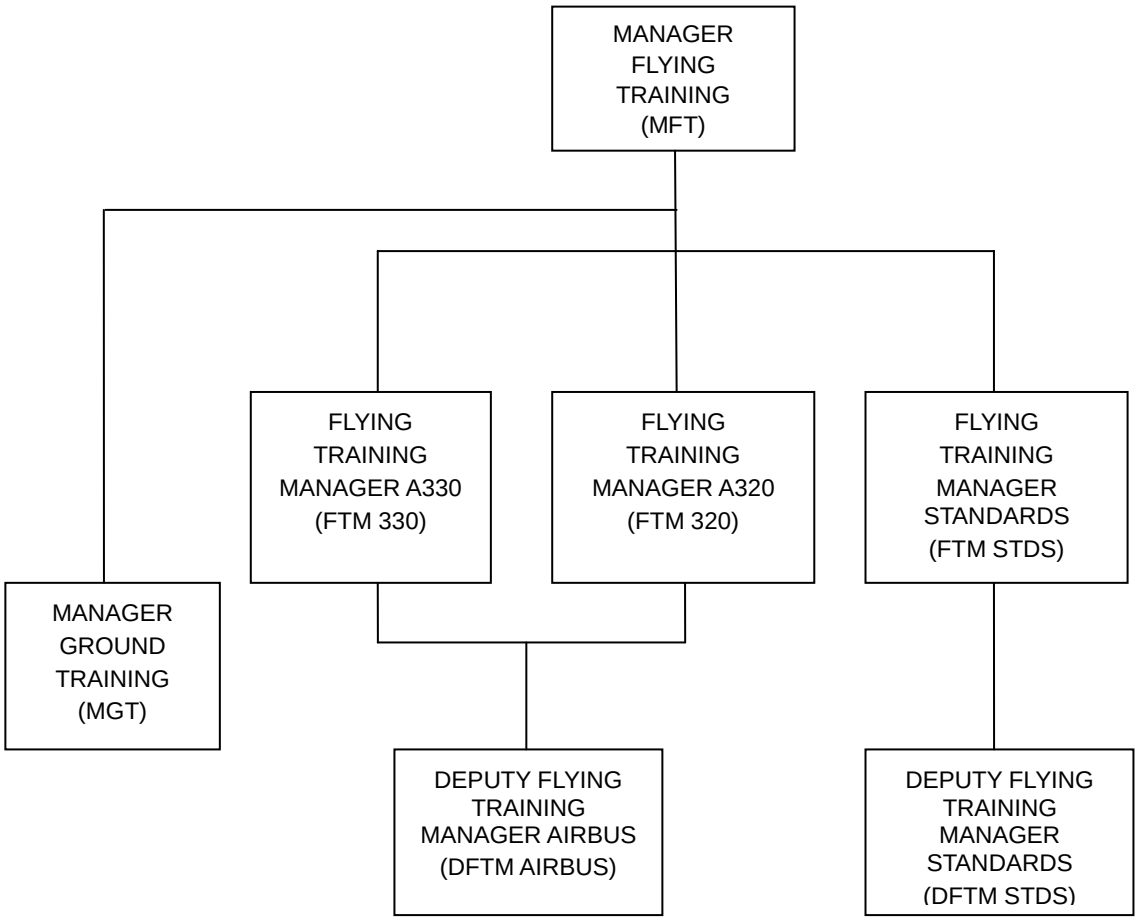
AIRCREW DEPARTMENT ORGANISATION CHART



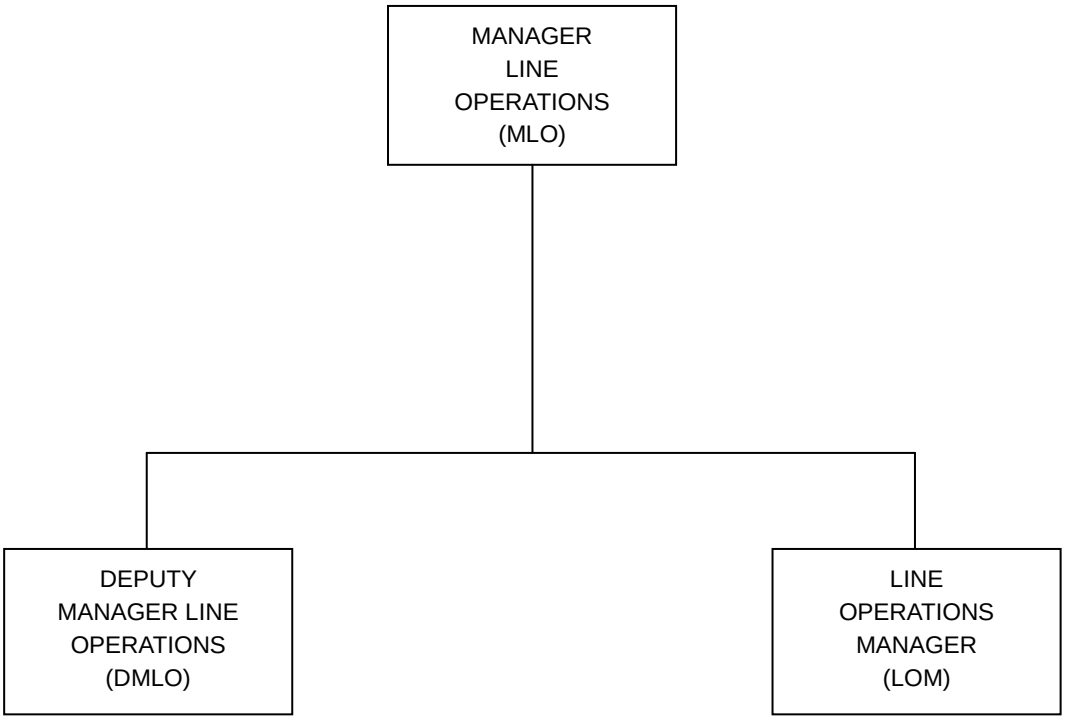
FLEET OFFICE ORGANISATION CHART



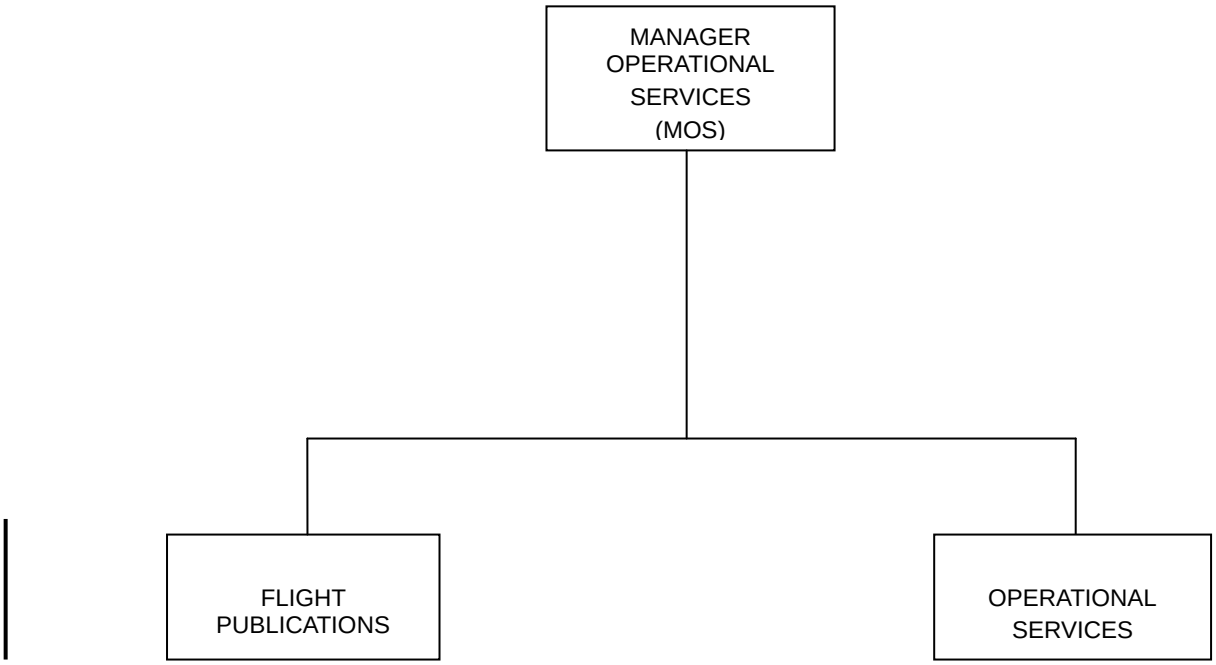
TRAINING OFFICE ORGANISATION CHART



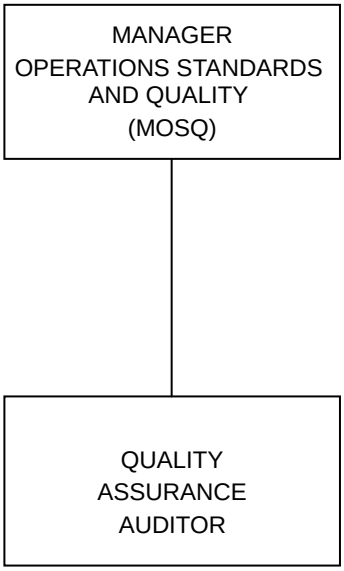
LINE OPERATIONS OFFICE ORGANISATION CHART



OPERATIONAL SERVICES OFFICE ORGANISATION CHART



QUALITY ASSURANCE OFFICE ORGANISATION CHART



1.3 NOMINATED POST HOLDERS

TBA

1.4 RESPONSIBILITIES AND DUTIES OF OPERATIONS MANAGEMENT PERSONNEL

1.4.1 GENERAL MANAGER OPERATIONS

MAIN PURPOSE OF THE JOB

To control, direct and develop policies for the Operations Division which ensure safe, effective and economical operation of Company aircraft, including the provision of adequate and efficient ground operational support.

To plan and implement measures that will enable the division to meet the requirements of future Company development.

POSITION IN THE ORGANISATION

Directly responsible to:

Chief Executive Officer

Directly responsible for:

Assistant General Manager Flying

Assistant General Manager Operations (Aircrew & Ground Services)

Manager Operations Standards and Quality

Maintain close liaison with	**On matters concerning:**
Hong Kong Government Officers	Government policy and regulations, particularly those of the Civil Aviation Department, affecting operations of the Airline.
Head of Engineering	Engineering and maintenance standards.
Other General Managers	Strategy and policy issues affecting the Operations Division.
Cathay Pacific Airways Pacific Managers	Areas of mutual operational concern. Delivery of services under SLA's.

MAIN AREAS OF RESPONSIBILITY

Advise the Chief Executive Officer on operational matters.

Manage all elements of operational activity to ensure compliance with the requirements of the Air Operator's Certificate.

Authorise the contents and revisions of the Operations Manuals.

Authorise the Operations Division Quality Management System.

Formulate divisional policies for:

a. Safe utilisation of aircraft;

b. Recruitment, training and utilisation of aircrew;

c. Recruitment, training and development of non-flying operations personnel;

d. Introduction of new aircraft and equipment.

Ensure that line operations, flight training procedures and flying standards are adequately defined in compliance with statutory orders, regulations, Air Operator's Certificate, and Company policy.

Observe line operations on all fleets to ensure quality objectives are being met.

Ensure that dispatch standards, both in Hong Kong and at outports, are maintained to a satisfactory level to ensure compliance with the Air Operator's Certificate and the Air Navigation (Hong Kong) Order 1995.

Exercise top management level control of Security services for the company and is responsible for providing security advice and guidance to the CEO and the other general managers / head of departments.

Accountable to the CEO to provide safety, quality and efficiency of ground services and cargo operations in compliance with statutory orders, regulations, Air Operator's Certificate, and Company policy.

Ensure the division is represented on selected committees and at meetings where operational interest or commitment is involved.

Maintain effective relations with appropriate governmental bodies, ICAO, IATA, OneWord AAPA, other airlines, aircraft manufactures, and suppliers.

Carry out duties, in accordance with the company Emergency and Accident Procedures Manual, in the event of a company aircraft accident or incident.

Attend the Air Safety Committee.

Act as "Authorised Manager" for the purpose of issuing an Operations Dispensation as per the Operations Dispensation Scheme (as per MEL Vol.6).

Act as Chairman of the yearly Management Review Meetings held in accordance with the Operations Division Quality Management System.

Supervise the preparation of expenditure and manpower budgets for the division and exercise control of expenditure.

Ensure all divisional personnel matters are administered as per Company policy including:

a. The well-being and morale of all operations personnel.

b. Control, counselling and discipline of immediate subordinates.

c. Making final decisions within the division on disciplinary matters.

d. Appointments, promotions, demotions, and dismissals.

Visit other airlines, aircraft and engine manufactures and aviation agencies to keep abreast of latest trends and developments within the industry.

Chair Senior Management Committee meetings.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft,
- Have a minimum of 2 years experience as a management post holder with Dragonair.

******

1.4.2 MANAGER OPERATIONS STANDARDS AND QUALITY

MAIN PURPOSE OF THE JOB

The management of the Operations Division Quality Assurance System.

The management of the Internal Evaluation Programme to periodically review planned strategies for compliance with present and proposed legislation and sound industrial practice.

The monitoring of all areas of company operations to ensure that all functions are carried out in a sound and economic manner and in accordance with the company's Air operator's Certificate (AOC), relevant legislation and company policy.

The maintenance of the company's IOSA accreditation for the Operations Division.

The maintenance of the company's China Civil Aviation Regulations (CCAR) CCAR 129 Operations Specification: Foreign Air Transportation Carriers.

The maintenance of the company's Civil Aviation Authority of the PHILIPPINES (CAAP) Foreign Air Carrier Operations Specifications.

The maintenance of the company's Federal Aviation Administration Part 129 Operations Specification. (If applicable)

POSITION IN THE ORGANISATION

Directly responsible to:

General Manager Operations

Directly responsible for:

Quality Assurance Auditor Operations

Maintain close liaison with:	**On matters concerning:**
Head of Corporate Safety and Quality	Quality issues
Divisional Quality Managers	Issues relevant to cross-divisional quality matters
All Ops Division Managers	Quality assurance and auditing

MAIN AREAS OF RESPOSIBILITY

The management of the Operations Division quality assurance systems, including audit and surveillance systems to ensure full compliance with the requirements of relevant legislation, the company's Air Operator's Certificate and Company policy.

Monitoring the Company's compliance with the company's Air operator's Certificate (AOC), relevant legislation and company policy and requesting remedial action if necessary by the appropriate manager.

The maintenance of the company's IOSA accreditation for the Operations Division.

The maintenance of the company's China Civil Aviation Regulations (CCAR) CCAR 129 Operations Specification: Foreign Air Transportation Carriers.

The maintenance of the company's Civil Aviation Authority of the PHILIPPINES (CAAP) Foreign Air Carrier Operations Specifications.

Representing the GMO in any negotiations with Hong Kong CAD regarding the Operations Division Quality Assurance Scheme, or any other matter at the direction of GMO.

The implementation of Quality Audit programmes.

The implementation of new Quality developments, concepts and techniques.

The monitoring of the performance of sub-contractors, (other than Engineering), including code share and wet lease airlines, and handling agents system wide for compliance with legislative, contractual and company requirements.

The production of the Operations Division Quality Management Manual as required by GMO.

The production of the Operations Division Quality Policy and Procedures Manual as

required by GMO.

Facilitating the production of the Operations Division departmental Policy and Procedures Manuals as required by GMO.

Making recommendations on the required staffing level for the Operations Division Quality section and the individual appointment of auditors.

Ensuring that any staff involved in the quality audit programmes are suitably trained.

The written notification to Hong Kong CAD of all changes to:

- Senior personnel
- Activities
- Facilities
- Location of facilities
- Matters relating to regulatory approval

The design and implementation of an Internal Evaluation programme as required by the GMO and the maintenance, supervision and control of the programme thereafter.

Advising GMO on all matters related to Operations Standards and Quality and in particular on all matters related to compliance with regulatory requirements.

Liaison with the Head of Corporate Safety and Quality, Quality Assurance Manager Engineering and other divisional Quality Representatives on QA matters.

Liaison with GMO on any issues or proposed changes in legislation that may affect Regulatory Approval.

Representing the company at meetings with regulatory authorities or other bodies as directed by GMO.

Co-ordinating with all company departments in respect to AOC related activities and developments.

Managing the Operations Division Management Review process to maintain the suitability and effectiveness of the Quality System.

Conducting and leading audits of all other company departmental activities, including outports, that affect Flight Operations, to ensure conformance with, and adequacy of, Operations Department policy and procedures.

Liaison with other overseas Government authorities as required by GMO.

Site Owner of the Operations Standards and Quality Team site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of an auditing qualification.
- Have a minimum 2 years experience performing auditing functions.
- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline, preferably in the Flight Operations section.

******

1.4.3 QUALITY ASSURANCE AUDITOR OPERATIONS

MAIN PURPOSE OF THE JOB

The provide assistance to the Quality Assurance Manager Operations in the following areas:

The management of the Operations Division Quality Assurance System.

The maintenance of the company's IOSA accreditation for the Operations Division.

The maintenance of the company's CCAR 129 Operations Specification.

POSITION IN THE ORGANISATION

Directly responsible to:

Manager Operations Safety and Quality

Directly responsible for:

N/A

Maintain close liaison with:	**On matters concerning:**
Head of Corporate Safety and Quality	Quality issues
Divisional Quality Managers	Issues relevant to cross-divisional quality matters
All Ops Division Managers	Quality assurance and auditing

MAIN AREAS OF RESPOSIBILITY

To assist MOSQ in the preparation of the annual Operations Division Audit Plan.

To carry out station and internal audits as directed by MOSQ.

To assist in monitoring the Operations Division continuing compliance with IOSA accreditation requirements.

To assist in monitoring Dragonair's continuing compliance with CCAR 129 Operations Specification accreditation requirements.

To carry out other quality assurance duties as directed by MOSQ.

To deputise for MOSQ in his absence.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of an auditing qualification.
- Have a minimum of 2 years employment with an airline, preferably in the Flight Operations section.

******

1.4.4 ASSISTANT GENERAL MANAGER FLYING

MAIN PURPOSE OF THE JOB

To ensure a safe, efficient and economical operation of Company aircraft, through the development and implementation of Flight Operations policy.

To ensure that all line operations and operational support functions are provided in accordance with company policy.

To ensure the career development of all cockpit crew is monitored and developed.

To deputise for the General Manager Operations in his absence.

POSITION IN THE ORGANISATION

Directly responsible to:

General Manager Operations

Directly responsible for:

Chief Pilot Airbus

Manager Flying Training

Manager Line Operations

Manager Operational Services

Maintain close liaison with:	**On matters concerning:**
Assistant General Manager Operations	Crew Administrative matters. Rostering and Recruitment.
Flight Crew Relations Manager	All matters concerning cockpit crew
Head of Engineering	Engineering, A/C utilisation
Manager Ground Services	On-time performance
Airline Planning	Route development and new destinations
Head of Corporate Safety and Quality	Safety matters
Manager Security	Emergency, accident and security matters

MAIN AREAS OF RESPONSIBILITY

Manage and provide oversight of OM Part A in order to reflect Company and Regulatory procedures.

Ensure that any pilot who requests or needs guidance or counsel is interviewed and given necessary assistance and advice.

Oversee Departmental budgets.

Carry out duties, as defined, in the event of an aircraft accident or incident.

Ensure that all MORs and ASRs are adequately investigated and that any action deemed necessary in the light of such investigation is taken.

Satisfy himself that the method of disseminating operational and company information to aircrew is effective and timely and that such information is accurate and suitably presented.

Make recommendations to the GMO for the appointment of new Fleet office, Line Operations and Training office staff.

Liaise with the HKCAD on Operational Policy matters. Act as first point of contact with the Flight Operations Inspector. Inform the HKCAD of significant changes to policies and procedures.

Liaise with all relevant Company managers and departments to ensure that the level of support for Flight Operations is adequate to ensure efficiency and that dispatch facilities are adequate.

Act as “Authorised Manager” for the purpose of issuing an Operations Dispensation as per the Operations Dispensation Scheme (as per MEL Vol.6).

Oversight of services provided by Cathay Pacific for the IOC, Flight Despatch and Ops Engineering.

PERSONAL ACTIVITIES

Chair the monthly Flight Operations Safety Review Meeting (FOSRC).

Chair regular AGMF Meetings.

Maintain own competence in the role of Training Captain and Authorised Examiner (as appropriate)

Attend Air Safety Committee Meetings.

Attend Senior Management Committee meetings.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft,
- Have a minimum 250hrs experience as a Line Training Captain.
- Have a minimum of 2 years experience as a management post holder with Dragonair.

******

1.4.5 CHIEF PILOT AIRBUS

MAIN PURPOSE OF THE JOB

To manage the day to day flying operation of fleet aircraft in a safe, cost effective and efficient manner ensuring compliance with quality system and legal requirements.

POSITION IN THE ORGANISATION

Directly responsible to:

Assistant General Manager Flying

Directly responsible for:

Deputy Chief Pilot Airbus

Technical Manager Airbus

Fleet Crew Relations Manager

Maintain close liaison with:	**On matters concerning:**
Manager Line Operations	Line Operations
Head of Engineering	Engineering matters which affect the operation of the fleet.
Manager Operational Services	Route planning and aircraft performance.
Head of Corporate Safety and Quality	Safety matters
Manager Security	Emergency, accident and security matters

MAIN AREAS OF RESPONSIBILITY

Establishing, documenting, and maintaining, optimum aircraft flight crew operating procedures (reflecting the configuration status of the aircraft being operated).

Monitoring Flight Crew adherence to standard operating procedures.

Issuing operational and general notices to crew amending or changing flight crew operating procedures as required.

Maintaining commonality and consistency of flight crew operating procedures across fleet types.

Noting deficiencies in flight crew operations and recommending possible improvements to flying training standards through MFT.

Reviewing aircraft manufacturer's flight crew operating information on an ongoing basis, exercising judgement, prioritising and implementing critical and important changes, in a timely and effective manner.

Maintaining effective control of aircraft configuration status where operational functionality is affected, and ensuring that the operational impacts of configuration changes are implemented in a safe and timely manner.

Keeping abreast of the latest technological advances and making timely decisions and giving necessary support to the implementation of trials, tests and installations of new technology, where this will bring economic or operational benefit.

Actioning all Commander Administration Reports in an efficient and timely manner.

Preserving the integrity of the AOC.

Providing feedback, support, information and expertise, on operational aspects of Air Safety Reports submitted under CAP 382 (MOR) reporting scheme including the use of AQD.

Maintaining suitable standards of airmanship.

Ensuring that all fleet technical matters including MEL are up to date and transparent to the crews.

Act as "Authorised Manager" for the purpose of issuing an Operations Dispensation as per the Operations Dispensation Scheme (as per MEL Vol.6).

Procuring industry and manufacturer research in order to keep abreast of latest developments to ensure that operational procedures and policies are updated from time to time.

Striving for continual improvement of flying products and services.

Managing human resources including a system of periodic interview, appraisal and feedback.

First stage of mediating disciplinary or grievance procedures in line with grievance policy.

Developing quality system procedures for all work activities.

Deputizing for AGMF when required.

Chairman New Pilot Applicant Selection Meetings.

Site Owner of the Fleet Office site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly.

PERSONAL ACTIVITIES

Recommending appointments, promotions, demotions and dismissals to AGMF.

Representing the Company in a loyal and positive manner at relevant seminars and meetings.

Attending feedback meetings from all activities designed to provide an audit of fleet standards and ensuring any conclusions are acted upon in relation to standard operating procedures and training activities.

Acting as Duty Operations Manager when appointed.

Assisting with New Pilot Applicant simulator and interview as appropriate.

Preserving the confidentiality of sensitive Company information.

Liaising effectively with the HKCAD ensuring the upkeep of a positive and productive relationship.

Sufficient line flying to ensure continued personal professional authority and standards.

Taking an active role in the training and checking of fleet Flight Crew to ensure that required fleet standards are being achieved.

Attends FOP Safety Review Committee Meeting.

Attends FDAP Review Committee Meeting.

Attends AGMF and Engineering Liason Meeting.

Attends ETOPS Biannual Review Meeting.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft,
- Have a minimum 250hrs experience as a Line Training Captain.
- Have a minimum of 2 years experience as a management post holder with Dragonair.

******

1.4.6 DEPUTY CHIEF PILOT AIRBUS

MAIN PURPOSE OF THE JOB

To support the role and responsibilities of the Chief Pilot.

POSITION IN THE ORGANISATION

Directly responsible to:

Chief Pilot Airbus

Directly responsible for:

Nil

Maintain close liaison with	**On matters concerning:**
Technical Manager Airbus	Technical aspects of Fleet Operations
Flying Training Managers (Fleet)	Matters concerning SOPs
Head of Engineering	Engineering matters which affect the operation of the fleet.
Head of Corporate Safety and Quality	Flight Safety matters concerning aircraft related aspects of Dragonair flying operations.
Manager Aircrew	On all aircrew matters.
Manager Line Operations	Issues of common interest affecting Fleet operations

Manager Operational Services	Matters concerning operational capabilities of the fleet.

MAIN AREAS OF RESPONSIBILITY

Deputizing for the CP in his absence.

Assisting the CP in the delivery of his responsibilities.

Special projects as directed by CP.

PERSONAL ACTIVITIES

Carry out duties as Duty Operations Manager.

Sufficient line flying to ensure continued personal professional authority and standards.

Act as "Authorised Manager" for the purpose of issuing an Operations Dispensation as per the Operations Dispensation Scheme (as per MEL Vol.6).

Attend AGMF Meetings and CP Meetings.

Represent the Company and Fleet Office at seminars.

Attend CX Eng/Ops Meetings

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft.

******

1.4.7 TECHNICAL MANAGER AIRBUS

MAIN PURPOSE OF THE JOB

To provide aircraft type technical expertise and to manage the aircraft technical interface, including relevant documentation and manuals, ensuring that operational needs are met in an effective and efficient manner.

POSITION IN THE ORGANISATION

Directly responsible to:

Chief Pilot Airbus

Directly responsible for:

Fleet Technical Pilot

Maintain close liaison with:	**On matters concerning:**
Manager Operational Services	Amendments to MEL and Operations Manuals.
Deputy Chief Pilot Airbus	Technical matters and dissemination of technical information to aircrew. Issue of Operational Notices.
Managers Training (Fleet)	Technical training matters.
Head of Corporate Safety and Quality	Flight safety matters and AQD.
KA & CX Engineering	Aircraft status and technical matters.

KA & CX QA	Technical quality assurance liaison.
HAECO	Technical matters.
HKCAD	Technical matters.
Fleet Aircraft Manufacturer	Technical matters.
CX TMA	A330 DDG and other Technical matters.

MAIN AREAS OF RESPONSIBILITY

Maintain the fleet MEL in compliance with regulatory and company requirements.

Review AFM revisions and compliance.

Monitor the technical content of the Operation Manuals to ensure compliance with regulatory and company requirements.

Maintain records of the aircraft configuration changes and modification status.

Assess relevant technical documentation and provide appropriate operational information and guidance to CPA regarding aircraft operational configuration and procedures.

Assess technical implications of CARs, CCRs and ASRs.

Provide a source of technical competence with regard to fleet-specific aircraft systems and procedures.

Monitor aircraft serviceability status and the effects on Company flight operations.

Monitor AQD and provide relevant technical inputs.

Maintain C of A Flight Testing Manual Vol.8A.

Assist with flight testing and simulator approval as required.

Examine all new technical information and disseminate technical information to aircrew.

Liaise with DRAGONAIR and CATHAY ENGINEERING, HAECO, HKCAD, other operators, aircraft / manufacturers and suppliers as required.

Undertake projects as tasked by CPA.

Issue Flight Crew Notices and Operational Notices as required.

Site Owner of the Airworthiness Testing site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly

PERSONAL ACTIVITIES

Maintain technical knowledge of aircraft types and operational procedures.

Represent the Company and Fleet Office at seminars as required

Fly on company aircraft to ensure operational familiarity.

Carry out Duty Operations Manager duties when approved to do so.

Attend Flight Operations Management Meetings (AGMF & CP).

Act as secretary to the Flight Operations Safety Review Meetings (FOSRC).

Attend CX Eng/Ops Meetings.

Attend AMOR Meetings.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of an aircraft engineering qualification.
- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline aircraft engineering department.

******

1.4.8 FLEET TECHNICAL PILOT

MAIN PURPOSE OF THE JOB

To assist the Technical Manager Airbus with testing of Fleet aircraft and simulators.

POSITION IN THE ORGANISATION

Directly responsible to:

Technical Manager Airbus

Directly responsible for:

N/A

Maintain close liaison with:	**On matters concerning:**
Manager – Flight Technical Services - CX	Simulator testing and A330 test schedules

MAIN AREAS OF RESPONSIBILITY

Participate in company test flights.

Participate in simulator validation.

Assist TM in coordinating air test activities including selection and training of test personnel.

Recommend amendments to Vol.8A.

Revision of Air Test Schedules for the Airbus Fleet.

Make operational recommendations with regards to test flying.

Maintain own HKCAD Airworthiness Flight Test Approval.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a HKCAD Airworthiness Flight Test Approval.
- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft.

******

1.4.9 FLIGHT CREW RELATIONS MANAGER

MAIN PURPOSE OF THE JOB

To assist the Chief Pilots in all matters relating to the management of cockpit crews.

To promote a divisional “one-stop shop” policy in dealing with cockpit crew non-operational issues.

POSITION IN THE ORGANISATION

Directly responsible to:

Chief Pilots

Directly responsible for:

Flight Ops Officers (as assigned)

Maintain close liaison with:	**On matters concerning:**
Manager Aircrew	Crew management and crew leave
Airbus Office Managers	Day to day issues affecting crews
Manager Crew Resources	Crew recruitment and reporting
Manager – Aircrew Personnel	Crew HR issues
Manager ISD	Joint cabin and cockpit crew matters
Manager Air Safety	Safety issues

MAIN AREAS OF RESPONSIBILITY

Act as first point of contact for all aircrew on non-operational matters.

Coordinate with Manager Aircrew on both a strategic and day-to-day basis on all aircrew management policy and procedures.

Establish clear lines of communication between the Flight Crew Relations Manager and the cockpit crews.

Develop and manage a follow up action system based on the aircrew management policies and procedures to deal with crew issues arising from the daily reports (or by other sources).

Act as first point of contact for the Personnel Division staff on all HR issues affecting cockpit crew.

Implement and manage the cockpit crew attendance policy and procedure for cockpit crew.

Implement and manage the cockpit crew catering policy.

Manage cockpit crew compassionate cases in accordance with company and divisional policy.

Assist the CP with the preparation and execution of disciplinary procedures in accordance with the agreed Disciplinary and Grievance procedures.

Liaise with the CAD on cockpit crew medical issues.

Participate in recruitment interviews in support of MCR from time to time.

Form part of the inspection team for selection of cockpit crew hotels.

Attend AGMF Meetings and other meetings as appropriate.

Liaise with ISD management on issues affecting both cockpit and cabin crew.

Co-ordinate the cockpit crew annual and end-of-probation interview programme.

Supervise the daily work and task assignments of the Fleet FOOs.

Act as the secretary to Senior Management Meeting.

Manage the care of cockpit crew and dependents during a crisis in accordance with the Company Crisis Management Manual.

Supervise the arrangement of Cockpit Familiarization Flights for KA staff.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline, preferably in the Flight Operations or Inflight Services section.

******

1.4.10 MANAGER LINE OPERATIONS

MAIN PURPOSE OF THE JOB

Responsible for all Dragonair line operations.

POSITION IN THE ORGANISATION

Directly responsible to:

Assistant General Manager Flying

Directly responsible for:

Deputy Manager Line Operations

Line Operations Manager

Maintain close liaison with:	**On matters concerning:**
Manager Ground Services	Provision of ground services at Hong Kong and all outports.
Manager Operational Services	Provision of Operational Services.
Head of Corporate Safety and Quality	Flight Safety matters concerning non-aircraft related aspects of Dragonair's flying operations.
Manager Aircrew	On all aircrew matters.
Chief Pilot Airbus	Issues of common interest affecting Fleet Operations.

MAIN AREAS OF RESPONSIBILITY

Ensure that Line Operations support is provided in safe, efficient, and cost effective manner in accordance with company policy and within agreed budget limits.

Act as first point-of-contact with pilots on the above.

Responsible for ETOPS, LWMO and RVSM matters.

Monitor Commanders Administrative Report on the above issues and initiate action as required.

When so tasked, respond to Crew Confidential Reports.

Recommend changes to non-aircraft related operational procedures in order to improve safety, efficiency or cost effectiveness.

Issue Flight Crew Notices and Operational Notices as required.

Recommend to the AGMF changes to the Operations Manuals Volumes 9 and Part A.

Conduct End-of-Probation and crew interviews when so required.

Act as "Authorised Manager" for the purpose of issuing an Operations Dispensation as per the Operations Dispensation Scheme (as per MEL Vol.6).

Attend the CP Meetings.

Site Owner of the Line Operations site on Dragonet. Responsible for defining the site

objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly.

PERSONAL ACTIVITIES

Representing the Company in a loyal and positive manner at relevant seminars and meetings.

Acting as Duty Operations Manager when appointed.

Assisting with New Pilot Applicant simulator and interview as appropriate.

Preserving the confidentiality of sensitive Company information.

Sufficient line flying to ensure continued personal professional authority and standards.

Attends FOP Safety Review Committee Meeting.

Attends FDAP Review Committee Meeting.

Attends AGMF and Engineering Liason Meeting.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft,
- Have a minimum of 2 years experience as a management post holder with Dragonair.

******

1.4.11 DEPUTY MANAGER LINE OPERATIONS

MAIN PURPOSE OF THE JOB

To assist the MLO and deputise for him in his absence.

POSITION IN THE ORGANISATION

Directly responsible to:

Manager Line Operations

Directly responsible for:

N/A

Maintain close liaison with:	**On matters concerning:**
Manager Ground Services	Provision of ground services at Hong Kong and all outports.
Manager Operational Services	Provision of Operational Services.
Head of Corporate Safety and Quality	Flight Safety matters concerning non-aircraft related aspects of Dragonair's flying operations.
Manager Aircrew	On all aircrew matters.
Chief Pilot Airbus	Issues of common interest affecting Fleet Operations.

MAIN AREAS OF RESPONSIBILITY

Ensure that Line Operations support is provided in safe, efficient, and cost effective manner in accordance with company policy and within agreed budget limits.

Monitor Commanders Administrative Report (CAR) on the above issues and initiate action as required.

When so tasked, respond to Crew Confidential Reports.

Recommend changes to non-aircraft related operational procedures in order to improve safety, efficiency or cost effectiveness.

Issue Flight Crew Notices and Operational Notices as required.

Recommend to the AGMF changes to the Operations Manuals Volumes 9 and Part A.

Process CARs containing information relevant to the Navigation Data Base, and forward amendments to MOS for inclusion in the next Data Base cylce.

Monitor CARs for information of importance to crews and forward to MOS for inclusion in Company Notams.

Liaise with MOS on all aircraft performance matters and on all navigation matters related to Airpath flight plans.

Act as “Authorised Manager” for the purpose of issuing an Operations Dispensation as per the Operations Dispensation Scheme (as per MEL Vol.6).

Monitor information bulletins from relevant aviation authorities and Jeppesen and update or amend Port Pages as required.

Monitor CARs for ETOPS, RVSM and LWMO related issues.

PERSONAL ACTIVITIES

Representing the Company in a loyal and positive manner at relevant seminars and meetings.

Acting as Duty Operations Manager when appointed.

Preserving the confidentiality of sensitive Company information.

Sufficient line flying to ensure continued personal professional authority and standards.

Attend AGMF and CP meetings.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft.

******

1.4.12 LINE OPERATIONS MANAGER

MAIN PURPOSE OF THE JOB

To assist the MLO and DMLO and deputise for them in their absence.

POSITION IN THE ORGANISATION

Directly responsible to:

Manager Line Operations

Directly responsible for:

N/A

Maintain close liaison with:	**On matters concerning:**
Manager Ground Services	Provision of ground services at Hong Kong and all outports.
Manager Operational Services	Provision of Operational Services.
Head of Corporate Safety and Quality	Flight Safety matters concerning non-aircraft related aspects of Dragonair's flying operations.
Manager Aircrew	On all aircrew matters.
Chief Pilot Airbus	Issues of common interest affecting Fleet Operations.

MAIN AREAS OF RESPONSIBILITY

Ensure that Line Operations support is provided in safe, efficient, and cost effective manner in accordance with company policy and within agreed budget limits.

Monitor Commanders Administrative Report on the above issues and initiate action as required.

Recommend changes to non-aircraft related operational procedures in order to improve safety, efficiency or cost effectiveness.

Issue Flight Crew Notices and Operational Notices as required.

Recommend to the AGMF changes to the Operations Manuals Volumes 9 and Part A.

Ensure that CX IOC provide all services relating to operational control in accordance with the relevant Service Level Agreements.

Attend AGMF and CP meetings.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline, preferably in the Flight Operations section.

******

1.4.13 MANAGER OPERATIONAL SERVICES

MAIN PURPOSE OF THE JOB

To monitor the actual and proposed DRAGONAIR route structure to ensure sufficient navigation, runway performance data and flight planning information is available to allow adequate briefing of crews.

To coordinate with Flight Operations Management with respect to safety issues relating to Aircraft Performance, Navigation and associated infrastructure on line policies, rules, instructions and procedures.

Responsible for the production and distribution of Company Operations Manuals.

Liaise with outports and agencies to ensure that the Dispatch, Navigational and Aircraft Performance needs of the Company are being effectively met and kept up to date.

POSITION IN THE ORGANISATION

Directly responsible to:

Assistant General Manager Flying

Directly responsible for:

Operational Services & Flight Publications staff

Maintain close liaison with:	**On matters concerning:**
Flight Operations Management	Dispatch, Flight Planning, Navigation, Aircraft Performance, Company manuals and related safety issues.
Jeppesen Sanderson	Supply of navigational charts.
Airbus Industrie	Airbus manual and performance program liaison.
Boeing Aircraft Company	Boeing manual and performance program liaison.
CX Airline Planning	Route analysis including flight time, routing, fuel consumption and payload etc. for Airbus and Boeing fleets.
Honeywell & CMC	FMS navigation database.
IOC	Route navigation & aircraft performance matters.
Handling agencies	Operational procedures for company flights.
KA station representatives	Dispatch arrangements & Training.
CX Manager Operations Services	Performance, Flight Planning and Dispatch services.

MAIN AREAS OF RESPONSIBILITY

Ensure an efficient and expeditious amendment and distribution service of the Operations Manuals.

Liaise with various Airport authorities on matters affecting Operational Services and conduct outport visits as necessary.

Monitor overflight and landing clearances with Airline Planning.

Perform route study, payload availability and fuel consumption planning in cooperation with Airline Planning.

Ensure operational data and documents are available for crews use.

Establish routes for new destinations and consult Assistant General Manager Flying for approval.

Action Fleet Management's instructions to update Computer Flight Plan system and Takeoff Performance analysis.

Visit Aviation Authorities at outports to obtain information for intended destinations, alternates, diversion and training airfields.

Negotiate operational issues concerning start-up of new destinations.

Prepare the annual budget for Operational Services.

Control and improve work standard and environment of operational services staff.

Establish and monitor despatch arrangements/services at all KA outports, and provide despatch training to outport staff.

Ensure that CX provide all services relating to Navigation, Aircraft Performance and Despatch including AIP/NOTAM monitoring, fuel tankering analysis, FMS Navigation Data Base updating, computer flight plan system, etc in accordance with the relevant Service Level Agreements.

Control and handle all navigation and overfly charges.

Handle fuel invoice verification and pass for payment.

Liaise with IMD regarding contract with data & voice communications service provider for ACARS, control & handle the invoices from service provider ARINC & SITA.

Represent KA to attend the liaison group of HK Observatory.

Site Owner of the Operational Services site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline, preferably in the Flight Operations section.

******

1.4.14 MANAGER FLYING TRAINING (HEAD OF TRAINING)

MAIN PURPOSE OF THE JOB

Responsible for managing the fleets' flying training operations in a safe, cost effective and efficient manner and ensuring compliance with quality system and legal requirements.

To oversee the FCT department and Training conducted by the CX FTC for Dragonair crew.

POSITION IN THE ORGANISATION

Directly responsible to:

Assistant General Manager Flying

Directly responsible for:

Flying Training Managers (Fleet)

Flying Training Manager Standards

Deputy Flying Training Manager Airbus

Deputy Flying Training Manager Standards

Manager Ground Training

Crew Resources Management Officer

Maintain close liaison with:	**On matters concerning:**
Assistant General Manager Operations	Planning and scheduling of all training activities. Training rostering
Manager Cabin Crew	Crew co-ordination training requirements
Head of Corporate Safety and Quality	Flight safety matters
CX Manager Flying Training	Development of Group Training Programs

CX Manager Ground Training	Content and delivery of conversion courses
CX Airbus Simulator Training Manager	Content and delivery of simulator training

MAIN AREAS OF RESPONSIBILITY

Ensure that Initial, Recurrent, Command and TC training and periodic checks are carried out to Company and CAD requirements.

Ensure that training records and Certificates of Test are correctly signed and maintained.

Implement systems, procedures, and documentation for all pilot training and review their effectiveness.

Organise refresher training as required.

Develop, publicise and monitor adherence to Company SOPs.

Maintain Operations Manual Part D such that it reflects the latest Company training instructions, syllabi and list of training personnel.

Arrange for the use of flight simulators and other training devices as required and within approved budget limits.

In consultation with AGMF, make recommendations to the GMO for the appointment of new training staff.

Ensure that training staff are adequately trained and qualified for their assigned task and monitor their subsequent performance in the role.

Counsel pilots as required to ensure that they are aware of any short comings in flying standards or SOP and recommend corrective action.

Prepare agenda, chair and produce minutes of quarterly Training Captains Meetings.

Assist the MGT in preparing training budgets.

Review training rosters to ensure the most effective training within approved budget limits.

Prepare and have issued Operations Manual amendments.

Prepare and issue Flight Crew Notices and Operational Notices as required.

Liaise with the CAD on pilot training matters.

Liaise with outside agencies and organisations on the development of training courses, methods and equipment and make a case for capital expenditure for proposed improvements.

Monitor that Training Courses conducted by the CX FTC are in accordance with the agreed Training Footprint and Dragonair Operations Manual requirements.

Monitor technical standards of Flight Simulators.

Monitor and direct the CRMO in the provision of CRM training.

Ensure compliance will all relevant Quality and IOSA standards.

Site Owner of the Flight Crew Training site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly.

PERSONAL ACTIVITIES

Carry out duties as Duty Operations Manager (DOM) as required.

Maintain own competence in the role of Training Captain and Authorised Examiner.

Facilitate regular Check & Training Meetings (CTM)

Attend Senior Management Committee meetings.

Attend Training Management Meetings (TMM)

Attend Training Rostering Meetings (TRM)

Attend Flight Data Analysis Meetings (FDA)

Attend Flight Operations Safety Review Meetings (FOSRC).

Attend AGMF & CP Meetings.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft,
- Have a minimum 250hrs experience as a Line Training Captain.
- Have a minimum of 2 years experience as a management post holder with Dragonair.

******

1.4.15 FLYING TRAINING MANAGER (FLEET)

MAIN PURPOSE OF THE JOB

Manage the training programme as advised by the Manager Flying Training to ensure that the operational standards laid down are achieved.

POSITION IN THE ORGANISATION

Directly responsible to :

Manager Flying Training

Directly responsible for :

Training Captains (Fleet)

Maintain close liaison with:	**On matters concerning:**
Chief Pilot Airbus and Manager Line Operations	Line Operational Training requirements and Operations SOPs.

MAIN AREAS OF RESPONSIBILITY

Supervising BTC, SBTC, STC and LTCs.

Monitoring the application of flying training standards to ensure they are achieved.

Ensuring standardization in the exercise of check duties of BTC, SBTC, STC and LTCs and those officers entitled to sign off qualifications in the simulators.

Certifying that Flight Crew are competent to meet the required Company and Regulatory standards.

Organising and conducting management check flights.

Monitoring the progress of trainees and arrange remedial action when required.

Keep the Flying Training Manager Standards informed of the progress of Check and Training activities as appropriate.

Conducting periodic appraisal interviews of all Training and Check Captains in conjunction with overall pilot appraisal system.

Convening and Chairing regular Check and Training operational meetings.

Liaising with CX Simulator Training Manager regarding simulator fidelity issues.

Recommending appointment of Check and Training staff.

Liaising with ICM Scheduling Manager on the production of the monthly training programme and approve it prior to its inclusion in the main roster.

Ensuring changes to the Training Roster caused by day to day disruptions are compatible with the Training Manual and aligned with continuity practices for the Trainee.

Preparing and presenting a precis of performance of Command and Check & Training Selection Panel candidates.

Ensuring that the relevant sections of Part D are maintained to an acceptable level.

Special projects as directed by the MFT.

PERSONAL ACTIVITIES

Deputizing for the MFT in his absence.

Liaising with ICM Planning Manager in regard to forward task capabilities.

Training and Check duties sufficient only to ensure continued professional authority.

Sufficient line flying to ensure continued personal professional standards.

Representing the Company at meetings, seminars and conferences and reporting as required.

Preserving the confidentiality of privileged Company managerial information.

Assist with New Pilot applicant simulator and interviews as appropriate.

Facilitate regular Check & Training Meetings (CTM)

Attend AGMF & CPA Meetings.

Attend Training Management Meetings (TMM)

Attend Training Rostering Meetings (TRM)

Attend Flight Data Analysis Meetings (FDA)

Acting as Duty Operations Manager when appointed.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft,
- Have a minimum 250hrs experience as a Line Training Captain.

******

1.4.16 DEPUTY FLYING TRAINING MANAGER AIRBUS

MAIN PURPOSE OF THE JOB

To support the role and responsibilities of the Flying Training Managers (Fleet)

POSITION IN THE ORGANISATION

Directly responsible to :

Flying Training Managers (Fleet)

Directly responsible for :

N/A

Maintain close liaison with:	**On matters concerning:**
Flying Training Manager Standards	Standards Operating Procedures and Training Standards
Chief Pilot Airbus and Manager Line Operations	Line Operational Training requirements and Operations SOPs.

MAIN AREAS OF RESPONSIBILITY

Deputising for the FTM(Fleet) in his absence.

Assisting the FTM(Fleet) in the delivery of his responsibilities.

Specific responsibilities delegated by the FTM(Fleet).

Special projects as directed by the FTM(Fleet).

Deputising for DFTMS in his absence.

PERSONAL ACTIVITIES

Preserving the confidentiality of sensitive Company information.

Assisting with the New Pilot Applicant simulator and interviews as appropriate.

Acting as Duty Operations Manager when appointed.

Representing the Company in a loyal and positive manner at relevant seminars and meetings.

Sufficient flying to ensure continued personal professional authority, and standards.

Sufficient Check and Training events to maintain personal Check and Training credibility, standards and authority.

Attend AGMF & CPA Meetings.

Attend Training Management Meetings (TMM)

Attend Training Rostering Meetings (TRM)

Attend Flight Data Analysis Meetings (FDA).

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft,
- Have a minimum 250hrs experience as a Line Training Captain.

******

1.4.17 FLYING TRAINING MANAGER STANDARDS

MAIN PURPOSE OF THE JOB

To be responsible for the standardisation of procedures, Quality oversight of training

programmes and development and implementation of special projects in relation to Flight Crew Training as required by the Manager Flying Training.

POSITION IN THE ORGANISATION

Directly responsible to:

Manager Flying Training

Directly responsible for:

N/A

Maintain close liaison with:	**On matters concerning:**
Flying Training Manager (Fleet)	Standard Operating Procedures and Training Standards.
Manager Flight Crew Training	Development of Flying and Training Procedures and Programmes.
Manager Operations Standards and Quality	Quality oversight and Internal Auditing

MAIN AREAS OF RESPONSIBILITY

Monitoring the application of flying training standards to ensure they are achieved.

Oversight and trend analysis of aircrew performance monitoring, and reporting of trends to MFT.

Oversight and conduct of regular internal and external training audit programmes.

Ensuring standardization in the exercise of check duties of BTC, SBTC, STC, LTC and those officers entitled to sign off qualifications in the simulators.

Recommending appointment of Check and Training staff.

Ensuring that the relevant sections of Part D are maintained to an acceptable level.

Oversee the initial training for all newly appointed Training Captains.

Special projects as directed by the MFT.

PERSONAL ACTIVITIES

Deputizing for the MFT in his absence.

Training and Check duties sufficient only to ensure continued professional authority.

Sufficient line flying to ensure continued personal professional standards.

Representing the Company at meetings, seminars and conferences and reporting as required.

Preserving the confidentiality of privileged Company managerial information.

Assist with New Pilot applicant simulator and interviews as appropriate.

Attend AGMF & CPA Meetings.

Attend Training Management Meetings (TMM)

Attend Training Rostering Meetings (TRM)

Attend Flight Data Analysis Meetings (FDA)

Acting as Duty Operations Manager when appointed.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,

- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft,
- Have a minimum 250hrs experience as a Line Training Captain.

******

1.4.18 DEPUTY FLYING TRAINING MANAGER STANDARDS

MAIN PURPOSE OF THE JOB

To support the role and responsibilities of the Flying Training Manager Standards

POSITION IN THE ORGANISATION

Directly responsible to :

Flying Training Manager Standards

Directly responsible for :

N/A

Maintain close liaison with:	**On matters concerning:**
Flying Training Managers (Fleet)	Standards Operating Procedures and Training Standards
Chief Pilot Airbus and Manager Line Operations	Line Operational Training requirements and Operations SOPs.

MAIN AREAS OF RESPONSIBILITY

Deputising for the FTMS in his absence.

Assisting the FTMS in the delivery of his responsibilities.

Specific responsibilities delegated by the FTMS.

Special projects as directed by the FTMS.

Deputising for DFTMA in his absence.

PERSONAL ACTIVITIES

Preserving the confidentiality of sensitive Company information.

Assisting with the New Pilot Applicant simulator and interviews as appropriate.

Acting as Duty Operations Manager when appointed.

Representing the Company in a loyal and positive manner at relevant seminars and meetings.

Sufficient flying to ensure continued personal professional authority, and standards.

Sufficient Check and Training events to maintain personal Check and Training credibility, standards and authority.

Attend AGMF & CPA Meetings.

Attend Training Management Meetings (TMM)

Attend Training Rostering Meetings (TRM)

Attend Flight Data Analysis Meetings (FDA).

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,

- Have a minimum of 2000hrs total aeronautical experience on heavy multi-engined aircraft,
- Have a minimum 500hrs Pilot in Command experience on heavy multi-engined aircraft,
- Have a minimum 250hrs experience as a Line Training Captain.

******

1.4.19 MANAGER GROUND TRAINING

MAIN PURPOSE OF THE JOB

To be responsible to the MFT for the administration of the Training Department and In-flight Safety and Emergency Procedures (IFSEP).

To oversee IFSEP Training conducted by the CXFTC for Dragonair Crew

POSITION IN THE ORGANISATION

Directly responsible to:

Manager Flying Training

Directly responsible for:

Emergency Procedures Specialist and Executive

Maintain close liaison with:	**On matters concerning:**
Flying Training Managers	Crew safety training matters.
Manager Cabin Crew	Matters affecting cabin crew safety training.
CX Safety Training Manager	Content and delivery of IFSEP Training

MAIN AREAS OF RESPONSIBILITY

Monitor all Training Department correspondence when MFT is absent from the office and ensure that urgent correspondence is dealt with.

Liaise with CATHAY PACIFIC, AIRBUS INDUSTRIE and OXFORD Aviation Academy for the reservation of courses and recurrent training sessions.

Ensure that the simulator approvals are up-to-date.

Monitor the currency of BTC, SBTC and STC authority and simulator approvals.

Maintain and amend Operations Manual Volume 7 and Part A Chapter 9 and advise MFT of recommended changes.

Monitor all IFSEP training and ensure that checks are carried out in accordance to CAD requirements.

Monitor all IFSEP training conducted by the CX FTC is in accordance with the agreed Training Syllabus and Dragonair Operations Manual requirements.

Liaise with Manager Cabin Crew (MCC) on disciplinary matters with reference to IFSEP.

Supervise EPS and EPE on the production of IFSEP lesson plans.

Take part in projects related to Flight Crew Training and Emergency Procedures Training as assigned by the MFT.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Certificate of Competency (IFSEP).

- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline, preferably in the Flight Operations or Inflight Services section.

******

1.4.20 CREW RESOURCES MANAGEMENT OFFICER

MAIN PURPOSE OF THE JOB

To develop and maintain the provision of CRM training for Flight Crew within the company.

POSITION IN THE ORGANISATION

Directly responsible to:

Manager Flying Training

Directly responsible for:

CRM Facilitators

Maintain close liaison with:	**On matters concerning:**
Training and Fleet Managers	Application of CRM principles and procedures to Flight Operations and Training
CX ICM	Rostering of CRM training and associated record keeping.
Manager Cabin Crew (Training and Recruitment)	CRM training for Cabin Staff

MAIN AREAS OF RESPONSIBILITY

To ensure that the Dragonair CRM program fulfils the requirements of the HKCAD Air Operator's Certificate Requirements Document (CAD 360).

To maintain the relevance and currency of existing courses and to develop new CRM courses as required.

To source new information and training material for inclusion in and updating of existing CRM courses.

To select and train CRM Facilitators, and to maintain personal proficiency as a facilitator.

To keep management informed of current CRM philosophy and to foster CRM principles amongst Flight Crew in general.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a valid Air Transport Pilots Licence,
- Have a minimum of 2000hrs total aeronautical experience on heavy multi-crew aircraft.

******

1.4.21 ASSISTANT GENERAL MANAGER OPERATIONS (AIRCREW AND GROUND SERVICES)

MAIN PURPOSE OF THE JOB

To assist the GMO to control, direct and develop policies for the effective and economical running of the Operations Division.

To oversee the support aspects of the company's operation with particular responsibility for the provision and deployment of suitably qualified crew.

To ensure that all Aircrew, Security, Ground Services and Cargo functions are provided in accordance with company policy.

To produce and control Divisional financial and manpower forecasts.

To deputise for the GMO.

POSITION IN THE ORGANISATION

Directly responsible to:

General Manager Operations

Directly responsible for:

Manager Aircrew

Manager Aircrew Personnel

Manager Crew Resources

Manager Security

Manager Ground Services and Cargo

Maintain close liaison with	**On matters concerning:**
All Managers within Operations	Implementation of Operations Policies
Head of Personnel	Company Personnel Policy
General Manager Inflight Services	Crew Hotac & FTL issues
CX General Manager Aircrew	Aircrew Manning issues
CX Accounting Services Manager	Divisional Budgetary Matters
CX Manager Integrated Crew Mgt.	Crewing numbers & Rostering
CX Head of Security	Operational Security

MAIN AREAS OF RESPONSIBILTY

Advise GMO on support aspects of the Operations Division.

Undertake specific projects as directed by GMO.

Administer the Approved Flight Time Limitation Scheme.

Chair regular formal meetings between the company and the DPA

Chair monthly meetings with the ICM service provider

Chair monthly meetings in accordance with the Rostering Practice Agreement

Oversee communications with Aircrew representatives on issues such as aircrew manning, rostering, conditions of service, Hotac etc.

Under take regular reviews of Aircrew conditions of service and their administration, setting up working groups where appropriate.

Oversee the establishment and maintenance of company Security policies within the company Security Manual.

Assist in maintaining relations with appropriate government bodies, ICAO, IATA, other airlines, manufacturers and suppliers.

Ensuring that all divisional personnel matters are administered as per company policy, having regard to the well-being and morale of all operations personnel.

Review, authorise, and control divisional expenditure within company limits and having regard to divisional budgets and forecasts.

Formulation of divisional policies for:

a. Recruitment, retention and utilisation of aircrew.

b. Organisational development and manpower planning.

Oversee the Service Level Agreement with CX for the provision of Planning Rostering, Crew Control and Crew Data Management services

Oversee the establishment and maintenance of company Ground Services policies and procedures.

Oversee the establishment and maintenance of company Cargo policies and procedures.

Attend Senior Management Committee meetings.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Be in possession of a tertiary education qualification.
- Have a minimum of 5 years experience as a management post holder.
- Have a minimum of 8 years employment with an airline, preferably in the Flight Operations section.

******

1.4.22 MANAGER AIRCREW

MAIN PURPOSE OF THE JOB

To develop, refine and implement a set of operations procedures for the management of all aircrew at the divisional level on behalf of AGMO.

To coordinate and establish multimedia communications and relationships with all aircrew including the DPA.

To assist the AGMO in the management and development of aircrew CoS policy and procedures for all aircrew and all contracts.

Coordinate the Divisional Crisis Management function.

POSITION IN THE ORGANISATION

Directly responsible to :

Assistant General Manager Operations

Directly responsible for :

Aircrew Management Specialist

Maintain close liaison with:	**On matters concerning:**
Assistant General Manager Flying	Aircrew management
Manager Ground Services and Cargo	Company Crisis Management
Manager Aircrew Personnel	Aircrew policies and CoS
Manager Cabin Crew	Crew hotac
Fleet Crew Relations Manager	Aircrew management
CX Personnel and Industrial Manager	Crew Industrial Issues

MAIN AREAS OF RESPONSIBILITY

To implement and recommend changes to Divisional and Departmental policies and procedures for the management of all aircrew on non-operational matters.

To coordinate and manage formal relationships and communication with the aircrew.

To coordinate with FCRM on both a long term and day-to-day basis on all aircrew management policies and procedures.

To manage CoS Policy and its implementation on behalf of AGMO.

To manage the Aircrew leave allocation scheme.

To develop refine and manage the Operations Division Drugs and Alcohol policy.

To develop, implement and manage the Divisional Crisis Management and Business Continuity Plan on behalf of GMO.

To coordinate and manage, with the Chief Pilot, the Divisional response to major disciplinary incidents in accordance with the agreed Disciplinary and Grievance procedures.

To manage and supervise major compassionate and medical incidents in the absence of the FCRM .

To coordinate and support the AGMO at formal meetings between the company and the DPA.

To liaise with the DPA on aircrew issues on a day-to-day basis.

Selection and contracting of crew hotels and transport.

Set crew outport allowances

To manage the Operations Division Employment Assistance programme.

Site Owner of the Aircrew Management Team site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline, preferably in the Flight Operations or Inflight Services section.

******

1.4.23 ASSISTANT MANAGER AIRCREW

MAIN PURPOSE OF THE JOB

Deputize for the Manager Aircrew (MA).

Coordinate and establish multimedia communications and relationships with all aircrew including the DPA.

To assist MA to coordinate the Divisional Crisis Management function.

POSITION IN THE ORGANISATION

Directly responsible to :

Manager Aircrew

Directly responsible for :

Aircrew Management Officer

Maintain close liaison with:	**On matters concerning:**
Manager Aircrew Personnel	Aircrew management
Manager Integrated Crew Management	Rostering policies and agreements

Manager Crew Resources	Aircrew HR administration
Manager Ground Services and Cargo	Crisis Management
Manager Cabin Crew	Crew hotac
Flight Crew Relations Manager	Aircrew management

MAIN AREAS OF RESPONSIBILITY

Deputize for MA and act as a point of contact for cockpit crew on non-operational matters.

Coordinate with MA on both a strategic and day-to-day basis on all aircrew management policies and procedures.

Produce and maintain the Aircrew Policies and Procedures Manual under the direction of MA.

Assist MA to develop and recommend changes to flight operations procedures for the management of all aircrew on non-operational issues.

Attend and take minutes for KA/ DPA meetings.

Assist MA to manage CoS Policy and its implementation on behalf of AGMO (Aircrew and Ground Services).

Manage the aircrew unpaid leave allocation policy and process (UPL, SLS, RRO).

Assist MA to develop refine and manage the application of the Operations Division Drugs and Alcohol Policy.

Manage the Flight Operations Employee Assistance Programme to include:

a. Coordination of the crew EAP briefing programme.

b. Dissemination of IPS Worldwide information bulletins.

c. Management of the crew EAP awareness programme.

Produce and issue Flight Crew Notices and Crew Information Bulletins.

Manage the Company Approved Medical Assessor contract.

Prepare and monitor the HKGFOPOA budget.

Assist MA on Environmental Issues and Corporate Social Responsibility contributions.

Provide support to MA on the refinement and development of the Operations Division Crisis Management Plan to include:

a. Maintenance of the Divisional Call out Plan

b. Update of the Operations Division Supplement

c. Maintenance of the Cockpit Crew CARE Team

d. Custody of Operations Divisional documents, briefings and procedures

e. Maintenance of the Operations Division Crisis Management Library

Manage Cockpit Uniform requirements while liasing with APD, Uniform Services and Uniform Vendor.

Liaise with MedLink on Medical Emergencies.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum of 2 years employment with an airline, preferably in the Flight Operations or Inflight Services section.

******

1.4.24 MANAGER AIRCREW PERSONNEL

MAIN PURPOSE OF THE JOB

Assist the Assistant General Manager Operations in the management and development of aircrew related personnel policies and procedures.

Administer aircrew benefits and remuneration.

Make sure all aircrew employment is in accordance with relevant laws and legislation.

POSITION IN THE ORGANISATION

Directly responsible to :

Assistant General Manager Operations

Directly responsible for :

Personnel Specialists

Personnel Officers

Maintain close liaison with:	**On matters concerning:**
Head of Personnel	Company Personnel policy
Manager Crew Resources	Recruitment offers and procedures
Manager Benefit Services	Aircrew benefits
Manager Aircrew	Aircrew CoS and Policy
Assistant Manager Compensation	Payroll and tax matters & Benefit
CX Accounting Services Manager	Budgets, forecasts and accounts

MAIN AREAS OF RESPONSIBILITY

Aircrew cost budgeting.

Pre employment, transfer and termination formalities for Aircrew: Offer letters, visas, tax returns, final settlements etc.

Payroll administration.

Interpret and communicate employment-related laws and regulations to ensure the Company is aware of its legal responsibilities, in conjunction with external legal advisers.

Maintain Aircrew Personnel records/database and prepare appropriate internal and third party reports and returns.

Make sure aircrew benefits are administered in accordance with CoS and company policy.

Aircrew work industry administration.

Manage Aircrew Personnel administrative issue.

Attend formal company/DPA meetings on issues related Aircrew Personnel administration.

Participate in and where appropriate have ownership of ad hoc projects reviewing aircrew benefits and their administration.

Administer ad hoc aircrew allowance and expenditure reimbursement claims.

Site Owner of the Aircrew Personnel Team site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline, preferably in the Human Resources section.

******

1.4.25 MANAGER CREW RESOURCES

MAIN PURPOSE OF THE JOB

Manage flight crew and cadet pilot recruitment in a timely and efficient manner.

To be responsible for the administration of Flight Crew Licensing and Crew Member Certificate.

To be responsible for Crew Data Management and support the AGMO in overseeing the SLA in relation to Crew Planning/ Rostering and Control services.

POSITION IN THE ORGANISATION

Directly responsible to:

Assistant General Manager Operations (Aircrew and Ground Services)

Directly responsible for:

Assistant Manager Crew Resources/ Crew Resources Specialists

Maintain close liaison with	**On matters concerning:**
Manager Aircrew Personnel	Aircrew joining administration
Manager Flying Training	Training course allocation Cadet training
Flight Training Adelaide (FTA)	Cadet courses and progression
CX ICM Planning Manager	Course allocation and manning requirements
CX ICM Reassignment & Control Manager	Crew licence validity
CX Assistant Manager Operations Data Control	Crew data management
HK CAD	Crew licensing, CMC, cadet training

MAIN AREAS OF RESPONSIBILITY

Manage flight crew and cadet recruitment to meet company requirement in an efficient manner.

Establish recruitment strategy through market trend studies, analysis of recruitment statistics and maintaining liaison with various pilot associations.

Study market trends through maintaining a liaison with training organizations and relevant agencies thereby exploring the supply of pilots of different experience levels.

Establish and develop aircrew and cadet selection process in accordance with divisional policies and market trends.

Plan & manage the promotion of recruitment marketing activities & projects.

Maintain a pool of experienced interviewers for recruitment.

Coordinate and communicate with the flying training college on contractual issues and cadet progress. Act as one of the mentors for cadets in training and perform regular individual reviews.

Maintain department policy and procedures manual in accordance with company and IOSA requirement.

Oversee departmental and cadet pilot programme budget.

Oversee the liaison with CX Operations Data Control in maintaining crew data. Ensure the department is providing adequate support for the AGMO in overseeing the SLA with CX for the provision of ICM functions.

Oversee flight crew licensing administration.

Oversee the administration of Crew Member Certificate for the company.

Liaise with CX Crew Planning on manpower requirement for the planning of recruitment, internal fleet switching, new joiners' joining dates, scheduling of PCE and command courses.

Maintain aircrew seniority, redundancy and bid lists. Advertise and allocate vacancies in accordance with the company seniority policy.

Maintain liaison with HK CAD on crew licensing, Crew Member Certificates and cadet training.

Take part in projects as directed by the AGMO.

Site Owner of the Crew Resources Team site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline, preferably in the Flight Operations or Human Resources Recruitment section.

******

1.4.26 ASSISTANT MANAGER CREW RESOURCES

MAIN PURPOSE OF THE JOB

To be responsible for the arrangement of flight crew recruitment interviews.

To be responsible for the running of the Cadet Pilot Programme.

To assist the MCR in managing flight crew recruitment.

To be responsible for the day to day monitoring of service level provided by CX ICM.

POSITION IN THE ORGANISATION

Directly responsible to:

Manager Crew Resources

Directly responsible for:

Crew Resources Administration Officer

Maintain close liaison with	**On matters concerning:**
Manager Aircrew Personnel	Aircrew joining administration
Flight Training Adelaide (FTA)	Cadet courses and progression
Flight Crew Relations Manager	ICM issues
CX ICM teams	ICM issues
CX Assistant Manager Operations	Crew data management

Data Control

CX IT Department — Recruitment systems

MAIN AREAS OF RESPONSIBILITY

Deputize the MCR when required.

Supervise the daily clerical assignments of the department.

Plan and establish aircrew interviews according to the budget or ad hoc requirement.

Manage all arrangement of interviews.

Perform initial screening and conduct flight crew selection interviews.

Maintain a database of qualified candidates.

Handle enquiries from applicants, provide appropriate information and guidelines at different stage of selection process.

Oversee the pre-employment checks of new joining pilots and follow up as appropriate.

Responsible for the reviewing of system used for flight crew and cadet applications. Run projects for modification, enhancing or sourcing of system to improve efficiency.

Responsible for the development and enhancement of cadet selection process. Review tests used for cadet selection, source and make recommendations to the MCR new and more effective tests.

Conduct cadet interviews, group exercise and pre grading/training briefings.

Maintain liaison with Flight Training Adelaide and CAD on the administration of the cadet programme. Responsible for all related travel arrangements, medical, licensing and CAD examinations arrangement etc.

Act as one of the mentors for cadets in training and perform regular individual reviews.

Maintain liaison with Aircrew Personnel on flight crew headcounts and arrangements for flight crew new joiners.

Support the AGMO in overseeing the SLA with CX for the provision of ICM functions. Responsible for the day to day monitoring of service level provided and liaise with CX ICM team when required.

Maintain crew data for flight operations through CX Operations Data Control and report any abnormity to the MCR.

Participate in projects as directed by the MCR.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum of 2 years employment with an airline, preferably in the Flight Operations or Human Resources Recruitment section.

******

1.4.27 MANAGER GROUND SERVICES AND CARGO

MAIN PURPOSE OF THE JOB

Oversee the Service Level Agreement with the Service Provider for the provision of Airport Services.

Oversee the Service Level Agreement with the Service Provider for the provision of Cargo Services.

Oversee the Service Level Agreement with the Service Provider for the provision of Emergency and Accident Services.

Manage the development, implementation and maintenance of the company Emergency Response Plan on behalf of the General Manager Operations.

POSITION IN THE ORGANISATION

Directly responsible to:

Assistant General Manager Operations

Directly responsible for:

Ground Services and Cargo Specialist

Maintain close liaison with	**On matters concerning:**
General Manager Airports, CX	Grd Svcs at KA ports
Mgr Cust'r Svcs & Product Dev – Airports, CX	Grd Svcs at KA ports
Manager Operations Services – Airports, CX	Grd Svcs at KA ports
General Manager Cargo Services, CX	Cargo Svcs at KA ports
Cargo Svcs Manager – Stds and Procedures, CX	Cargo Svcs at KA ports
Cargo Svcs Manager – Trng, Imp and Perf, CX	Cargo Svcs at KA ports
Mgr Operations – Standards and Quality, KA	Svc Quality and SLAs
Head of Corporate Safety and Quality, KA	Grd & Cgo Safety issues
Head of Corporate Contingency Planning, CX	Crisis Management
Manager Service Delivery – KA HKIA	Grd & Cgo issues in HKIA

MAIN AREAS OF RESPONSIBILITY

Maintain all the company ground handling related manuals, including but not limited to, Ops Manual, Aircraft Handling Manual, Airports Customer Services Polices & Procedures and Weight & Balance Folder. Review the amendments with the Service Provider, endorse the updates before implementation and publication.

Maintain the company Cargo Services Manual. Ensure all the services policies and procedures, in the form of Cargo Services Notices / Circulars, DG & Cargo Security Circulars and Cargo Quality Assurance Notice, are in strict compliance with the SLA. Review the amendments with the Service Provider, endorse the updates before implementation and publication.

Undertake regular checking and inspection to the Service Provider in Ground Services and Cargo perspectives, ensure the essence of SLA is always in strict compliance. Initiate the revision of SLA whenever it is necessary, with prior agreement between the Operator and the Service Provider.

Establish regular communication with HKIA and Outports to ensure the services policies and procedures in Ground Services and Cargo perspectives are well disseminated by the Service Provider, in particular those related to Safety and Legality compliances.

Hold regular meetings with the Service Provider in both Ground Services and Cargo perspectives to review performance standards and pursue improvement measures.

Establish regular communication with HKIA and Outports to review the training system and planning with the service provider which is in accordance with the latest company policy and procedure. This is to ensure all safety, service and procedural training in Ground Services and Cargo Services are up to date and in compliance with IATA regulations and CAD requirements.

Being the Chairman of Ground Safety Review Committee to monthly review all irregularities under Ground Services and Cargo perspectives with safety implication, monitor the investigation processes performed by the Service Provider and suggest service improvement initiatives to avoid recurrences.

Represent Ground Services and Cargo Services to attend the monthly Airline Safety Committee Meeting and other relevant meetings to provide input and manage all the required activities.

Develop and implement the Corporate Crisis Management and Business Continuity Plans on behalf of GM – Operations.

Coordinate with all relevant KA departments and CX CCP for regular meetings on Crisis Management and Business Continuity planning.

With the final endorsement from GMO, review the updates and amendments on the Corporate Crisis Management Manual with the Service Provider, CX CCP.

Act as the company prime contact point for all issues related to Ground Services, Cargo Services and Corporate E&A, both externally to the public organizations and internally to all KA employees.

Site Owner of the Ground Services and Cargo Team site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 2 years experience in an airline outport role.
- Have a minimum of 5 years employment with an airline, preferably in the Flight Operations or Airport Ground Services section.

******

1.4.28 GROUND SERVICES AND CARGO SPECIALIST

MAIN PURPOSE OF THE JOB

Assist the manager to ensure the Service Provider is in compliance with the Service Level Agreement for the provision of Airport Services, Cargo Services and Emergency and Accident Services.

Deputise the main areas of responsibility for the Manager Ground Services and Cargo when he / she is absent from the office.

POSITION IN THE ORGANISATION

Directly responsible to:

Manager Ground Services and Cargo

Maintain close liaison with:	**On matters concerning:**
Ops Performance Manager – Airports, CX	Grd Svcs at KA ports
Ops Standards Manager – Airports, CX	Grd Svcs at KA ports
Baggage Services Manager – Airports, CX	Grd Svcs at KA ports
Standards & Product Dev Mgr – Airports, CX	Grd Svcs at KA ports
Network Performance Manager – Airports, CX	KA ports perf / OTP
Mgr Operations Standards and Quality, KA	Svc Quality and SLA
Cargo Svcs Manager – Stds and Procedures, CX	Cargo Svcs at KA ports
Cargo Svcs Manager – Trng, Imp and Perf, CX	Cargo Svcs at KA ports
Cargo Svcs Manager – Safety and Risk, CX	Cargo Svcs at KA ports
AM AIRLINE SAFETY, GRP OPS & CGO, KA	Grd & Cgo Safety

Crisis Response Manager, CX	Crisis Management
Customer Services Manager – KA HKIA	Grd & Cgo issues in HKIA

MAIN AREAS OF RESPONSIBILTY

Establish regular communication with AHQ Operations Performance team and CSV Performance and Implementation team. Diagnose and investigate the root causes of all the safety related cases on ground handling and cargo services. Find ways to avoid recurrences and improve safety standard across the KA network.

Assist to lead the Ground Safety Review Committee meeting on a monthly basis with all the services providers to maintain a high standard in ground and cargo safety awareness.

Conduct station visits to KA ports to understand the local airport environment, constraints and development plan. Assist local stations to improve quality service delivery and ensure proper operational procedures are in place.

Coordinate with the Service Provider on corporate E&A development and execution. Follow through the outstanding items derived from the quarterly working group meeting with departments concerned. Ensure readiness and awareness in all KA departments for handling contingency and emergency situations.

Take part in regular E&A table-top / full-scale exercises at non-China stations to ensure the local readiness and awareness of handling emergency situation.

Assist the manager to conduct regular briefings to the operating crew at fleet forums for ground handling and cargo services issues. Work closely with KA Line Operations Department to deal with pilots' concern on ground and cargo handling matters.

Liaise with Quality Assurance department to conduct contractor audits of the Service Providers on a bi-yearly basis. Identify weak areas from the QA reports and strive for continuous improvement.

Be actively involved in ad-hoc projects together with the manager, e.g. IOSA audit preparations, airport authority E&A exercise coordination, new station / new GHA / new system / charter flight coordination, etc.

In the absence of the Manager Ground Service and Cargo, the Ground Services and Cargo Specialist will deputise all duties and responsibilities on his / her behalf.

******

1.4.29 MANAGER SECURITY

MAIN PURPOSE OF THE JOB

To safeguard Dragonair's, employees, assets, passengers and properties entrusted to its care.

To ensure that Dragonair's, security policy and measures comply with statutory requirement.

POSITION IN THE ORGANISATION

Directly responsible to:

Assistant General Manager Operations

Directly responsible for:

Security Specialist; and

Security Executive

Maintain close liaison with:	**On matters concerning:**
In-flight Services	Regulatory issues, i.e. LAGs, etc Safety & Security of Cabin Crew,

	Cabin crew security training
Corporate Safety & Quality	Issues related to IOSA's, ASRs and CSRs
Corporate Communication	Release of security related information to the media and the public
Relevant Port Managers	Security measures of line stations Security alerts of line stations, if applicable Safety and security of crew members, if applicable
CX Security	Alignment of group security policies.
HAS Duty Managers	Handling of in-flight security incidents related to KA operations.

MAIN AREAS OF RESPONSIBILITY

Formulation of an overall security policy for the acceptance and agreement by the senior management

Development and promulgation of security standards and practices to provide line management with direction and control

Establishing a clear order of command in the security structure

Ensuring the effectiveness of the security programme by regular evaluation and inspection

Effective liaison with governments, authorities and law enforcement agencies

Ensuring the implementation of the appropriate security measures during periods or instances of increased threat

Providing specialist advise to senior and port management on all security functions, protection, intelligence, information and investigation.

Ensuring the security programme meets the regulatory requirement of countries in which Dragonair operates; and

Reporting all, actual or suspected, acts of unlawful interference within Dragonair aircraft operations to the appropriate authority.

Site Owner of the Security Team site on Dragonet. Responsible for defining the site objectives, its target audience, periodically reviewing the content for accuracy, validity, usefulness and to edit the site accordingly

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum 2 years training or employment with a security services organization.
- Have a minimum of 2 years experience as a management post holder.
- Have a minimum of 5 years employment with an airline, preferably in the Flight Operations or Security section.

******

1.4.30 SECURITY SPECIALIST

MAIN PURPOSE OF THE JOB

To assist the Security Manager to execute the security policy of Dragonair and to provide professional advice to the Security Manager on security related issues as and when required.

POSITION IN THE ORGANISATION

Directly responsible to:

Manager Security

Directly responsible for:

Security Executive

Maintain close liaison with:	**On matters concerning:**
Airport Permit Office	Issue / cancellation of Airport Restricted Area Permits Handling of lost permit reports.
Personnel Department	Issue / cancellation of Dragonair staff cards Assignment of access levels to each individual grade of staff
JLL	Vehicle access rights to Dragonair House car park. Security issues related to Dragonair House
CX Security Department	Issue of Visitor Passes to CX staff who require access to Dragonair House
Hong Kong Police	Security surveillance at Dragonair House
CAD	Transport of arms & ammunition.
Various consulates in Hong Kong	Transport of Diplomatic consignments on Dragonair services

MAIN AREAS OF RESPONSIBILITY

Deputize for the Manager Security when he is absent from the station.

Provide Security Training to flight crew members (both flight deck and cabin).

Respond to ASRs and CSRs.

Assist the Manager Security to evaluate the threats that could possibly affect the Dragon air operation.

Under the direction of Manager Security, attend to security related incidents.

Conduct outstation audits.

Authorization of the issue and return of airport permits.

Issue staff cards with the information stored in HRMS.

QUALIFICATIONS

The Post Holder shall fulfill the following requirements:-

- Have a minimum 2 years training or employment with a security services organization.
- Have a minimum of 2 years employment with an airline, preferably in the Flight Operations or Security section.

******

1.4.31 SENIOR MANAGEMENT COMMITTEE

MAIN PURPOSE

The Senior Management Committee's (SMC) primary function is to establish divisional policy, rules and procedures to ensure the efficient functioning of the Operations

Division.

COMMITTEE MEMBERS

Chairman:

General Manager Operations

Committee Members:

Assistant General Manager Flying

Assistant General Manager Operations

Meeting Frequency and Quorum:

The SMC will meet monthly.

The Chairman will vary this frequency to meet operational requirements.

Secretary:

Flight Crew Relations Manager

SENIOR MANAGEMENT COMMITTEE SCOPE AND RESPONSIBILITY

The SMC will review and, where necessary, change divisional policies, rules and procedures to ensure the efficiency of operations.

The SMC may also introduce new polices, rules and procedures when considered necessary.

1.5 AUTHORITY, DUTIES AND RESPONSIBILITIES OF THE COMMANDER

Operational control of Dragonair aircraft is the sole responsibility of the Commander from the moment he signs on prior to a flight until he hands over the aircraft after the completion of the flight.

The Commander is to ensure the safe and efficient operation of his aircraft in all phases of flight and ensure compliance with the Operations Manual.

In particular he is responsible for;

a. The safety of all crew members, passengers and cargo on board when the doors are closed;

b. The operation and safety of the aircraft from the moment the aircraft is ready to move for the purpose of taking off until it comes to rest at the end of the flight with the engines shut down.

The Commander is supported in this role in the following manner.

a. Cathay Pacific Airways provides operational control and flight dispatch services to Dragonair.

b. Pre-flight briefing documentation to enable the Commander to self dispatch is prepared and delivered by Cathay Pacific Flight Dispatch Office, either directly in the case of flights originating in Hong Kong, or via the local Dragonair Office of handling agent in the case of flights originating outside Hong Kong. In many cases, pre-flight briefing documentation will be provided out of Hong Kong, prior to the first sector, for the outbound and return sector(s) for regional flight.

c. Monitoring and support is provided by Cathy Pacific Integrated Operations Centre at all times, supported by a Dragonair Duty Operations Manager on call if guidance is needed.

d. Ground support at outport is provided by the local Dragonair Office or contracted ground handling agents.

1.5.1 RESPONSIBILITIES

THE COMMANDER:

a. Is to ensure that all pre-flight preparation is carried out and that he is fully informed on all factors relevant to the flight.

b. Is to keep himself informed of all factors affecting the flight's progress to enable him to make decisions regarding safety, airmanship and forward planning without delay.

c. Is to keep his Co-pilot informed of his intentions and supervise the Co-pilot's duties.

d. Is to ensure that all procedures are properly monitored.

e. Is to ensure an adequate look-out is kept, particularly during departure and arrival.

f. Is to notify IOC of any delays or deviations from the planned schedule.

g. Is to use his best endeavors to ensure the comfort and well being of his passengers. In the event of a delayed departure when away from base caused by weather or technical reasons he is to keep the passengers fully informed as to the reason and probable extent of the delay. He must ensure that one pilot remains with the aircraft when it is on the ground with passengers on board.

h. Is to ensure that all flight documentation and aircraft checks, if applicable, are completed.

PRE-FLIGHT ACTION BY THE COMMANDER

Before a flight the Commander is to ensure that:

a. The "signing in" book held in the Operations office of the handling agency has been initialed by all flight crew members. If necessary he is to initiate action to replace crew members who have failed to report on time. At outstations the Captain is to use his discretion to establish a reporting time that will ensure an on-schedule departure.

b. Flight Crew and Operational Notices have been read by all flight deck crew members.

c. The requirements laid down in the Flight Time Limitations Section of this Manual have been met and that the crew complement is sufficient for the proposed schedule.

d. The AOM requirements detailed in Part A 8.1.4.2 will be met.

e. All the crew are licensed and qualified for the flight in hand and are in possession of their valid license and passport, and where appropriate visa and inoculation certificates.

f. The necessary route information on radio aids, meteorological conditions, destination and alternate airfields, danger or prohibited areas, Class 1 and 2 NOTAMS are checked and if information is not available on any airfields which may be used, steps taken to obtain such information from the appropriate authorities. The ATC Flight Plans have been filed with the appropriate authority, the navigation and fuel plans have been completed and the contents of the documents envelope are comprehensive and correct.

g. The Commander/PIC should brief the crew prior to boarding the aircraft to personally establish the basis for an effective working relationship between the Flight Crew and the Cabin Crew. Items covered in the briefing should include, but is not limited to, flight time, length of taxy, if refueling with passengers on-board, turbulence, weather, training, items or persons of special security interest and technical defects which may limit communications between the flight deck and the passenger cabin.

h. The documents detailed under "Documents to be Carried" in Part A 8.1.9.1, are valid and on board.

i. The prescribed safety equipment, including oxygen and first aid kits, is installed, is serviceable and can be used.

j. The aircraft is serviceable, the equipment, including instruments and radio is adequate for the route to be flown and there is on board a valid Certificate of Maintenance Review in respect of the aircraft and engines which will remain valid for the expected duration of the flight.

k. There is on board a Maintenance Log and all reported defects have been rectified or other suitable action taken.

l. Sufficient fuel, oil and hydraulic fluid for the planned flight is on board and the relevant documentation is signed in the appropriate place.

NOTE: Whilst Article 10(2) requires the Inbound Commander to sign the log there is no legal requirement for the Outbound Commander to have sight of this signature".

m. The aircraft has been safely and correctly loaded in accordance with current loading instructions, the correct baggage has been loaded for the planned destination and any cargo is secure.

n. The load and trim sheet has been correctly prepared and signed in the appropriate place by both the person responsible for the load sheet and by the Commander.

o. The performance of the aircraft, in the conditions to be expected during the intended flight, is sufficient to clear all obstructions in the engine out configuration throughout the flight and the aircraft is capable of safely taking off, climbing to and maintaining a safe altitude and making a safe landing at the intended destination or nominated alternates; and that the maximum performance and takeoff landing weights are not exceeded based on the environmental conditions expected at the time of departure and arrival.

p. All the passengers are strapped in and have been briefed before take-off on the emergency exits and safety equipment, including the use of oxygen.

q. All external and internal checks have been completed and those items listed on the Check List have been carried out.

r. Aircraft anti/de-icing procedures have been followed when deemed necessary by the Commander.

s. The crew is briefed regarding action to be taken should an emergency arise during or shortly after take-off and in particular that the engine failure procedure is fully understood by all of the Flight Deck Crew.

EN ROUTE ACTION BY THE COMMANDER

During the course of the flight the Commander is to ensure that:

a. One pilot remains at the controls at all times during flight secured in his seat by means of a safety belt. See Flight Deck Seating.

b. A radio watch is maintained at all times on the frequency appropriate to the section of the route being flown.

c. Air Traffic Control instructions are obeyed at all times, except when the safety of the aircraft would be endangered in an emergency. The Commander has ultimate responsibility for ensuring terrain clearance and in particular during radar vectoring for an instrument approach. Constant situational awareness must be maintained to ensure that terrain clearance is not jeopardized by unsafe ATC instructions.

d. The aircraft is navigated in an accurate and efficient manner, making maximum use of the on-board navigation equipment.

e. A navigation log is maintained for each stage of the route.

f. Accurate reports of the aircraft position, altitude and any other information which may be requested by Air Traffic Control are transmitted on the appropriate frequency.

g. In-flight fuel checks should be carried out at least once on every sector, and at intervals not exceeding 60 minutes on flights longer than 90 minutes.

h. Monitor weather information to include current weather and forecasts, for destination, destination alternate and en-route alternate airports as applicable.

i. The comfort and well-being of the passengers is attended to at all times.

j. Should hazardous conditions, or inadequate facilities, be encountered in flight, such information concerning the conditions as may be pertinent to the safety of other aircraft is passed to the appropriate ATC agency as soon as possible. Such information should also be relayed to IOC by ACARS or other suitable means.

k. If the cabin altitude exceeds 10,000 ft. oxygen is used by all of the crew.

ACTION BY THE COMMANDER AFTER LANDING

After landing the Commander is to ensure that:

a. The Maintenance Log Sheet relating to the flight has been correctly completed. The Commander is to print his name and sign it where required.

b. All CIQ regulations at the airport of arrival have been complied with by crew and passengers.

c. At stations where a portion of the load is to be discharged the correct items have been off loaded.

d. Ballast has been removed or loaded as required.

e. The CAR covering all stages of the flight has been completed and signed.

f. Copies of ATC Flight Plans, Navigation Logs, Load Sheets, Balance Tables, MET Charts and Fuel Receipts are returned to Operations in the documents envelope.

AIRPORTS WHERE NO HANDLING IS AVAILABLE

At those aerodromes where there is no Handling Agent, the Commander must carry out, or delegate crew members to do so, those actions normally performed by the Company's Agent.

This may include customs clearance, documentation as required by the local authorities and payment of all fees.

AIRPORT WHERE NO ENGINEERING HANDLING AVAILABLE

When no ground Engineers are available to complete a post-flight check on a terminating flight the Commander is to complete the "Securing Aircraft" checklist, insert landing gear pins, ensure the aircraft is chocked and parked in a suitable location and carry out a walk around external inspection.

1.5.2 AUTHORITY

The Commander:

a. Has authority to give all commands he deems necessary for the purpose of securing the safety of the aircraft and of persons or property carried therein, and all persons carried in the aircraft shall obey such commands;

b. Has authority to disembark any person, or any part of the cargo, which in his opinion, may represent a potential hazard to the safety of the aircraft or its occupants;

c. Shall not allow a person to be carried in the aircraft who appears to be under the influence of alcohol or drugs to the extent that the safety of the aircraft or its occupants is likely to be endangered;

d. Has the right to refuse transportation of inadmissible passengers, deportees or persons in custody if their carriage poses any risk to the safety of the aircraft or its occupants;

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

f. Shall not permit a flight data recorder to be disabled, switched off or erased during flight nor permit recorded data to be erased after flight in the event of an accident or an incident subject to mandatory reporting;

g. Shall not permit a cockpit voice recorder to be disabled or switched off during flight unless he believes that the recorded data, which otherwise would be erased automatically, should be preserved for incident or accident investigation nor permit recorded data to be manually erased during or after flight in the event of an accident or incident subject to mandatory reporting;

All lawful commands given by the commander for the purpose of securing the safety of the aeroplane and of persons or property carried therein must be obeyed by all persons carried in the aeroplane.

The Commander has the authority to apply greater safety margins, including airport

operating minima, if he deems it necessary. As stipulated in the Operations Manual, the Commander allocates the tasks to each crewmember. He may delegate a part of his duties to specific crewmembers under his full responsibility.

1.6 DUTIES AND RESPONSIBILITIES OF CREW MEMBERS OTHER THAN THE COMMANDER

1.6.1 CO-PILOT'S DUTIES

A suitably qualified pilot shall be designated as Co-pilot. He is to assist the Commander to ensure the safe and efficient operation of the aircraft in all phases of flight.

Before flight, in cooperation with the Commander, he is to:

a. Collect and study the NOTAMS, the forecast and, if applicable, actual weather conditions, complete the navigation log and calculate fuel requirements.

b. Ensure that the ATC plan has been filed and that he and the Commander are aware of all information relevant to the flight.

c. Carry out refueling and systems replenishment when CAD qualified Ground Engineers are not available.

d. Carry out external and internal checks.

e. Cross-check the take-off performance calculations with the Commander.

f. Conduct radio communication, record initial clearances and data as required.

g. Maintain an adequate look-out, particularly during departure and arrival.

h. Be aware of the Commander's intentions and monitor the conduct of the flight at all times. He must advise the Commander, immediately, of any apparent deviations from the desired flight plan, of any non-compliance with normal procedures or if he considers a potentially hazardous situation is developing.

i. Carry out frequent instrument checks and advise the Commander of any abnormal indications.

j. Maintain the Navigation Log, recording the progress of the flight and the fuel consumption.

NOTE: When the Co-pilot is PF, the duties detailed above may be interchanged at the Commander's discretion. The Co-pilot must be advised in advance precisely which duties he is to perform.

1.6.2 SUPERNUMARY CREW DUTIES

When additional crew members are carried on the Flight Deck they will perform such duties as are required by the Commander. These duties should be consistent with the training and qualifications of the supernumerary crew member and include the requirement to maintain a look-out.

Supernumary crew must ensure their presence has no adverse effect on the flight operation.

INTENTIONALLY BLANK

TABLE OF CONTENT

2 OPERATIONAL CONTROL AND SUPERVISION

2.1 SUPERVISION OF THE OPERATION BY HONG KONG DRAGON AIRLINES

2.1.1 GENERAL

All flights shall be planned and operated in accordance with company regulations. Company regulations shall be in compliance with the regulations of local authorities or with regulatory instruments promulgated by them. Any discrepancy should be reported to an appropriate Manager.

The Flight Operations Management is in charge of the supervision of the operation. The Management specifies the policies, the procedures and any associated control to ensure the safety and security of the operation.

Effective safety management oversight is essential for a safe and compliant operation.

The core process components of effective safety management oversight and regulatory compliance include:

- appointing appropriate Operations Management Personnel
- ensuring adequate finances to provide the necessary resources, equipment, workspace,
- work environment and facilities
- defining organisation, responsibilities and procedures
- promulgation of additional operational instructions and information
- monitoring of staff recruitment and induction
- maintaining the competence of the staff
- training management and supervision of crew qualifications and validity
- crew control and supervision of Flight Duty Regulations and expiry items
- performing the operation within the authorised limits
- quality control by operational departments within the Quality System

2.1.2 THE FLIGHT OPERATIONS MANAGEMENT

2.1.2.1 THE FLIGHT OPERATIONS MANAGEMENT SUPERVISES THE OPERATION BY:

- Defining in the Operations Manual, the policies the procedures and responsibilities to ensure that the operations comply with the content of the AOC and associated Operations Specifications.
- Ensuring that the aircraft is operated in compliance with the terms of its Certificate of Airworthiness and is in compliance with the FCOM and the DDG (MEL/CDL).
- Setting up operational procedures and instructions for all types of operations both on ground and in flight, which define duty for ground staff and crewmembers.
- Setting up a checklist system to be used by crewmembers under normal, abnormal and emergency conditions to ensure that the procedures of the Operations Manual are adhered to.
- Training ground staff and crewmembers on the procedures, instructions and checklists associated to their tasks.
- Ensuring that the personnel can communicate in a common language (English) and that they are able to understand those parts of the Operations Manual which pertains to their duties and responsibilities.
- Ensuring crew members shall not perform any activities during critical phases of the flight other than those required for the safe operation of the aircraft.
- Ensuring crew licenses validity and competence of operational staff.
- Promulgating additional operational instructions and information when needed by means of Notices to Crew (NTC) or email.
- By monitoring flight time, duty time and rest period of each crew member.
- Checking, analysing and storing flight and maintenance records, pilots and cabin crew reports for the statutory periods.
- Maintaining an Integrated Operational Control Centre (IOC) to supervise and to manage all operational daily events in respects of safety and of the efficiency of the operations. The primary function of IOC is to facilitate operational control through communication and effective and efficient co-ordination of activities. The IOC also assists the crew to ensure safe and efficient operations taking account the satisfaction of the passengers.
- Maintaining a Maintenance Control Centre (MCC) to ensure that aircraft airworthiness during daily operations and that maintenance can be performed or planned in accordance with the aircraft flight schedules.

2.1.2.2 OPERATIONS MANUAL

The Operations Manual contains all instructions and information necessary for operations personnel to perform their duties.

Relevant volumes of the operations manual shall be accessible either in physical or electronic form to all FOP staff and to those HDA position holders who have responsibility for AOC related activities. All staff shall comply with the stated policies and procedures within the manual which are relevant to their position. Should anything in the manual be inconsistent with legally applicable requirements, the legislation shall take precedence. Any inconsistency or any suggestions for improvement shall be notified to the Operations Standards and Quality section or a member of Operations Division management. In order to facilitate this, the Operations Division web site on Dragonet provides a link under the Crew Tools Menu entitled Manuals Feedback.

2.1.2.3 DOCUMENTATION

Distribution of the operational manual or the parts of the operations manual must be monitored to ensure that the needed operational documentations are available to operational staffs to perform their tasks.

Parts of the operations manual including charts needed to prepare and to conduct the flight must be available and up-to-date at flight dispatch and on board the aircraft.

Documentation on board (QRH, FCOMs) aircraft must be customised to the aircraft type.

Flight crew should notify in the CAR, any error, any page missing or any page needed to be replaced.

2.1.2.4 COMPETENCE OF OPERATIONS PERSONNEL

For Operations Management:

Internal Quality Audits are performed to verify that management are implementing both regulatory requirements and standards.

For Crew Members:

Training and Checking programme ensures that each crewmember is competent. A monitoring of the validities of the licences and qualification ensures that a Crewmember without valid required licences or qualifications cannot be nominated as crewmember on a flight.

Line checks also allow assessing flight crewmembers competence and adherence to airlines policies and procedures.

For Ground Personnel:

The managers of ground personnel must ensure that they have received the required training, qualifications and that they are competent to perform their tasks.

2.1.2.5 LICENSE AND QUALIFICATION VALIDITY

The supervision of license and qualification validity is performed by:

- The Crew Training Records System which follows-up the qualifications and licenses validity of the crew members.
- The Crew Scheduling Department, which checks that medical, flight license and qualification of crewmembers designed to fly are valid and appropriate to the scheduled flights.

Each license entitles its holder to exercise its privilege, this as long as its remains valid. Nevertheless, it is the holder's responsibility to not perform a flight without having the valid licenses and qualifications required for the flight.

2.1.2.6 FLIGHT DUTY TIME

The supervision of flight duty time and rest time is ensured by:

By Crew Scheduling Department, which take account of the flight / duty time and rest period of the crewmembers in the monthly and weekly planning.

By ICM (Integrated Crew Management system) which take account of the actual flight / duty time and rest period in the daily planning.

Notwithstanding, it is the holder's responsibility not to perform a flight without complying with maximum Flight/Duty time requirements or with its authorised exceedance.

With minimum rest time or with its authorised reduction.

2.1.2.7 OPERATED AIRPORTS, ROUTES AND AREAS OF OPERATIONS

Operations into any aerodrome shall only be authorised if it is deemed an adequate aerodrome for the type(s) of aircraft and operation(s) concerned.

An adequate Aerodrome is an aerodrome which the operator considers to be satisfactory, taking account of the applicable performance requirements and runway characteristics; at the expected time of use, the aerodrome will be available and equipped with necessary ancillary services such as ATS, sufficient lighting, communications, weather reporting, navaids and emergency services.

Operations are only conducted along routes or within areas, for which:

- Ground facilities and services, including meteorological services, are provided which are adequate for the planned operation;
- The performance of the aircraft intended to be used is adequate to comply with minimum flight altitude requirements;
- The equipment of the aircraft intended to be used meets the minimum requirements for the planned operation;
- Appropriate maps and charts are available.
- If twin-engine aircraft are used, adequate aerodromes are available within the time/distance limitations.

Operations are conducted in accordance with any restriction on the routes or the areas of operation, imposed by the HKCAD.

Flight crew must have current and suitable airport and route documentation to perform their flight and if needed, flight crew must be specifically trained and qualified to operate specific airports, routes or to perform non-standard procedures.

2.1.2.8 OPS ENGINEERING

Ops Engineering provide:

- The list of airports or of airport procedures adequate for the support of the operations. This list shall be updated to take account of NOTAMs, AIC, AIP Supplement or any other relevant documentation issued by an approved authority from time to time.
- Any operational restrictions to IOC, Flight dispatch and Flight crew if required by the technical status of the aircraft.
- The performance computations. They must update them to take account of new operational constraints. Runway and obstacles data have a direct impact on takeoff and landing performance and must be especially monitored.

2.1.2.9 CONTROL AND STORAGE OF FLIGHT DOCUMENTS AND RECORDS

Records, flight documents, reports are used for the supervision of the operations.

2.1.2.10 DOCUMENTS USED FOR THE PREPARATION AND EXECUTION OF THE FLIGHT

HKCAD 360 requires the carriage, of the following documents on each flight:

- operational flight plan,
- Aircraft Maintenance Log,
- the filed ATS flight plan,
- appropriate NOTAM / AIS briefing documentation,
- appropriate meteorological information,
- mass and balance documentation,

- notification of special categories of passenger(s) such as security personnel, if not considered as crew, handicapped persons, inadmissible passengers, deportees and persons in prescribed in Chapter 9,
- current maps and charts and associated documents,
- any other documentation which may be required by the states concerned with this flight, such as cargo manifest, passenger manifest, etc and forms to comply with the reporting requirements of the HKCAD.

By examining and signing these documents, the Commander certifies that he is satisfied with the flight preparation.

Flight documents to be retained on ground for at least the duration of the flight are:

- A copy of the operational flight plan
- Copies of the relevant parts of the Aircraft Maintenance Log
- Company NOTAM
- Mass and Balance documentation (Loadsheet)
- Special loads notification
- Fuel receipt

2.1.2.11 REPORTS

After each flight the Commander shall ensure completion of the Aircraft Maintenance Log (AML) and of the Commanders Administration Report (CAR) which contains the aircraft registration, flight number, date, place and time of departure and arrival and the names and duty assignments of the crewmembers.

He shall also report all occurrences to the Corporate Safety Department as detailed in (Handling of accident and occurrences).

As appropriate, an Air Safety Report or a confidential report may also be submitted to the Corporate Safety Department.

2.1.2.12 PRESERVATION OF DOCUMENTS

Permission has been granted by the HKCAD for the information detailed above, or parts thereof, to be presented and retained in a form other than on printed-paper. Post Flight Information System (PFIS)

Operations Data Control (ODC) will retain the original flight documents for six months and Commander's Administration Report (CAR) for twelve months. The Post Flight Data are stored electronically without time limit in the Post Flight Information System (PFIS) starting from Jan 2003. All requisite flight documents (including ETOPS), except the CAR are stored electronically for 120 days in the Centralized Flight Despatch (CFD) Archive.

2.2 SYSTEM OF PROMULGATION OF ADDITIONAL OPERATIONAL INSTRUCTIONS AND INFORMATION

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

- Print and distribution by mail and company mail
- Distribution into personnel or crew mail boxes
- Mailing to a staff member's email address
- Lotus Notes, the company electronic mail system enabling all Dragonair departments to receive or distribute information at stations where flights and/or operations personnel have access to a terminal.
- SITA teletype messages
- Faxed information
- Telephone call or SMS
- Company frequency or phone patch (airborne)
- Relay by ATS (airborne)
- ACARS

Dragonair shall ensure that employees and crew members are aware that they shall comply with the laws, regulations and procedures of those States in which operations are conducted and which are pertinent to their duties.

Regulations and procedures of a temporary or informative nature are published through NOTAMs and NTC.

The concerned department responsible for issuance of information or instruction is also responsible for its follow-up and cancellation.

When applicable, the information/instruction must state the issue date along with the beginning and end dates of its applicability. If unable to state the applicability period, it shall state “Valid until Further Notice” and/or “For inclusion in the Operations Manual”

2.2.1 NOTICES TO CREW (NTC)

Operational and General NTC Books are held in Flight Dispatch. Also, both books are held on each aircraft flight deck. All current Operational and General NTCs may be read in the Flight Crew Web Site (Dragonet), at iconnect.dragonair.com. It is the responsibility of all crew to ensure that they are fully conversant with all Operational and General NTCs.

NOTE: An updated list of these notices is also available at the flight dispatch and onboard company aircraft to ensure the crewmembers can easily check that they don’t miss any information or instruction.

2.2.2 CONFIDENTIAL NOTICE TO CREW (C/NTC RED FOLDER)

The C/NTC contains STRICTLY CONFIDENTIAL sensitive security information for dissemination to flight crew and held in flight dispatch for flight crew review. This information is not to be removed or copied.

2.2.3 COMPANY NOTAM AND SPECIAL NAVIGATION NOTES ON CFP

Used as a means of providing crew additional operating information or restrictions that may be relevant for the given flight, this information shall be reviewed by crewmembers prior to departure.

2.2.4 AIRWORTHINESS DIRECTIVES

Airworthiness Directives (AD) are a directive issued by regulators that requires specific action within a specific time frame for specified aircraft, engines or components. ADs are usually issued to address a current or possible deficiency.

2.2.5 MANUFACTURERS INFORMATION

Technical, operational and safety data is provided by the manufacturer. After the concerned manager has validated it and assessed its relevance for the operation, this information will be promulgated as appropriate.

2.2.6 OPERATIONS ENGINEERING BULLETINS (OEB)

Operations Engineering Bulletins (OEBs) are issued by Airbus to rapidly inform operators of any deviations from initial design objectives that have a significant operational impact. OEBs provide the operators with technical information and temporary operational procedures that address these deviations.

They are incorporated in the FCOM and QRH; they are also published on electronic format.

2.2.7 FLIGHT CREW BULLETINS (FCB)

Flight Crew Bulletins (FCB) provide complimentary technical/operational explanations related to the information included in the FCOM.

FCBs are issued periodically by Airbus to address one or several subjects and include supplementary explanations concerning procedures, system descriptions, performance and regulations.

They are updated as the need arises and are filed in FCOM/FCB Flight Crew Bulletins; they are also published on electronic format.

2.2.8 FLIGHT SAFETY JOURNAL (DRAGONFLY)

Issued by Head of Corporate Safety & Quality

- To provide safety information based on airline experience or studies;
- To provide safety information following aircraft manufacturers or authorities advice.

2.3 FLIGHT SAFETY

Flight Safety has been integrated in Safety Management System

Refer to: Part A 3.1 Safety Management System

2.4 OPERATIONAL CONTROL

Dragonair has authority over initiation, continuation, diversion or termination of a flight.

Dragonair uses a PIC- assisted system for the purpose of operational control: The Commander/PIC has sole authority over any and all decisions regarding operational control. However, the Commander/PIC is assisted by others such as IOC, DOM or other operational staff assigned the responsibility to carry out specific functions, duties or tasks, such as flight planning and in-flight support.

2.4.1 AUTHORITY AND RESPONSIBILITY

Operational control facilities and related services are the responsibility of the General Manager Operations.

2.4.1.1 IOC

The primary function of the IOC is to facilitate operational control through communications and established procedures with relevant operational and commercial sections and departments. Furthermore, IOC is responsible for the effective and efficient co-ordination of all applicable activities with its control period.

Hong Kong Dragon Airways Limited (Dragonair) has authority for Operational Control, that is, the initiation, continuation, diversion or termination of a flight. For the purpose of operational control Dragonair uses a non-shared system as defined by IATA.

IOC has the authority for Operational Control for any commercial issues during the IOC control period.

IOC shall seek guidance and clarification from the DOM for any operational issues beyond the scope or expertise of the IOC staff.

The responsibility for an individual flight devolves on the IOC before departure.

The IOC presides over the initiation, continuation, termination or cancellation of any scheduled or non- scheduled flight. The Commander/PIC has the authority as to the operation and safety of the aircraft and all persons on board during his time on duty. All operational decisions should be co-ordinated with IOC.

Operational decisions must be made in the best interests of Dragonair's entire scope of operations and as such must include consultation with local offices and all concerned Departments.

BEFORE THE FLIGHT

IOC coordinates latest information on the planned flight and takes the necessary decisions to ensure the flight or to cancel it.

The flight dispatch officer prepares the flight dispatch package. Once the Commander/PIC has commenced his flight duty, the flight dispatch officer shall assist the Commander/PIC concerning all matters dealing with his flight, his crew and his aircraft.

Station manager supervises all airport activities (passenger, ground handling, loading). He coordinates also with IOC and the Commander/PIC of the flight. The station manager is responsible for the flight until the Commander/PIC takes the responsibility for the safety of all crewmembers, passengers and/or cargo on board the aircraft once the doors are closed.

INITIATION OF THE FLIGHT

It is the responsibility of the Commander/PIC to initiate the flight.

ONCE THE FLIGHT HAS COMMENCED

The aircraft Commander/PIC has the authority for Operational Control for any safety or

legal issues from the moment the aircraft is ready to move for the purpose of Taking-off, until the moment it finally comes to rest at the end of the flight and the Engines are shutdown.

In flight, the final authority as to the disposition of the aircraft rests with the Commander/PIC. The IOC must provide the Commander/PIC with any information having an operational impact or with information requested by the Commander/PIC. The Commander/PIC shall always base his decisions with the safety of the operation in mind.

2.5 POWER OF THE REGULATORY AUTHORITY

The HKCAD has the power to deliver the right to operate commercial flights by means of an Air Operator Certificate (AOC).

An AOC may be varied, suspended or revoked if the HKCAD is no longer satisfied that the operation is safe. The HKCAD has the privilege to grant an exemption from requirement prescribed in HKCAD 360. In such a case, the HKCAD is responsible for ensuring that an acceptable level of safety can be maintained The Accountable Manager, post holders and the Quality Manager must be acceptable to the HKCAD.

The HKCAD has the right to interview any nominee or call for additional evidence of his suitability before deciding upon acceptability.

The HKCAD has the power to:

- Determine the adequacy, relevance and consistency of the AOC holder's compliance with the requirements;
- Assess the efficiency of the operator's internal monitoring procedures and confirm the availability of sufficient resources and proper processes, as documented by the AOC holder's Quality System;
- Verify by means of inspections, compliance with the requirements and the effectiveness of the AOC holder's Quality System;

The HKCAD has the power to assess the continued competence of an AOC holder's by inspection and monitoring of:

- Infrastructure
- Manuals
- Training
- Crew records
- Maintenance
- Ramp
- Equipment
- Pre-flight preparation
- Release of Flight/Despatch
- Flight
- Ground
- Dangerous Goods
- Quality System and results of operator's Quality audits

The General Manager Operations will liaise with the HKCAD on matters concerning inspections and monitoring.

The HKCAD may direct, in the interests of safe operations, by means of Operational Directives that an operation shall be prohibited, limited or subjected to certain conditions.

Operational Directives state:

- The reason for issue;
- Applicability and duration; and
- Action required by the operator.

2.5.1 REGULATIVE AUTHORITY FLIGHT INSPECTIONS

For flight inspections, any person authorised by the HKCAD or State Authority must be permitted at any time to board and fly in any aircraft operated in accordance with an AOC issued by that Authority and to enter and remain on the flight deck.

The Commander/PIC shall, within a reasonable time of being requested to do so by a person authorised by an Authority, produce to that person the documentation required to be carried on board.

However, at any time, the Commander/PIC may refuse access to the flight deck if, in his opinion, the safety of the aircraft would thereby be endangered.

After any such inspections including Ramp Inspections the Commander should notify the company by CAR.

2.6 OPERATIONS DISPENSATION PROCEDURES AND CONTROL

SPECIAL PROCEDURE FOR OPERATION OUTSIDE THE NORMAL SCOPE OF DRAGONAIR OPERATIONS MANUALS.

THIS SPECIAL PROCEDURE MUST BE USED FOR ANY OPERATION OUTSIDE THE CONSTRAINTS OF THE MEL, MMEL, FCOM, OPERATIONS MANUALS OR AIR NAVIGATION (HONG KONG) ORDER AS AMENDED. THIS SPECIAL PROCEDURE SHALL BE KNOWN AS AN "OPERATIONS DISPENSATION".

2.6.1 INTRODUCTION

An OPERATIONS DISPENSATION in Dragonair is a temporary exemption from a specific requirement of an Operations Manual(s).

Form KA/OPS/07 Operations Dispensation is a document issued by the authorised individuals holding Flight Operations Management appointments when granting an OPERATIONS DISPENSATION. The relevant text of this document shall be transmitted to the Commander requesting the OPERATIONS DISPENSATION via either VOICE or ACARS. A copy shall always be sent to the station by TELEX, this must be retained for record purposes.

Article 32 of AN(HK)O makes the Commander responsible for ensuring that the aircraft is in every way fit for the intended flight. The Minimum Equipment List in the Operations Manual represents guidance to the Commander as to what defective items might be reasonably left unserviceable without jeopardising the safety of the aircraft when making his decision whether to operate the intended flight.

When an OPERATIONS DISPENSATION is granted, the Commander may accept an aircraft for a flight outside the provisions of the manual from which the dispensation is granted. He must be satisfied that the aircraft is in every way fit for the intended flight under the circumstances and conditions that may reasonably be expected on that flight.

For any flight to operate outside the requirements of any Operations Manual an OPERATIONS DISPENSATION must first be obtained otherwise the flight is in violation of the conditions of the AOC.

Selected individuals holding Flight Operations Management appointments are authorised to grant OPERATIONS DISPENSATIONS.

No flight shall take place with any item of aircraft equipment inoperative or outside the requirements of the Operations Manual, if in the opinion of the Commander the lack of such equipment or the relaxing of an Operations Manual requirement will jeopardise the safe conduct of the flight.

2.6.2 APPLICABILITY

This scheme applies to the following specific aircraft types operated by Dragonair:

Airbus A320/A321 Series.

Airbus A330 Series.

2.6.3 AUTHORISATION AND APPROVAL

2.6.3.1 GENERAL

Selected individuals holding Flight Operations Department Management appointments are authorised by the General Manager Operations to grant OPERATIONS DISPENSATIONS to the requirements of the Operations Manuals. This authority is promulgated in this annex and is reflected in the individual Flight Operations Department Management appointee's terms of reference.

The degree of temporary exemption must be predicated upon the preservation of an

acceptable level of safety. No person boarding or on board Dragonair aircraft will suffer hazard. The aircraft operation must not violate the legal requirements of the Air Operators Certificate.

OPERATIONS DISPENSATIONS (KA/OPS/07) issued in connection with the granting of operations dispensations to the requirements of an Operations Manual as the result of an operational event or an aircraft engineering unserviceability may be used as permission for an aircraft Commander to operate outside the requirements of the Operations Manual excluding those requirements of the manuals, schemes and documents listed under Scope of Authority below. Dispensations will not be granted unless an acceptable level of safety is assured.

All Flight Operations Department personnel so authorised must familiarise themselves with Airworthiness Notice No. 52 and the Cathay Pacific Airways Engineering Department Concession Note issuance procedures, EOMP 4-5.

This will be achieved by a briefing from Engineering Manager Quality Assurance, prior to approval as an authorised manager.

2.6.3.2 AUTHORISED PERSONS

Authorisation for the following personnel to grant an OPERATIONS DISPENSATION from the Operations Manuals is promulgated hereunder.

Capt P. Sanderson	GMO	Capt C. Phillis	DCP (Airbus)
Capt R. Taylor	AGMF	Capt P. Taylor	FTM (A330)
Capt J. Rebbeck	MLO	Capt J. Toller	FTM (A320)
Capt J. Ashby	DMLO	Capt H. Kolding	DFTM (A)
Capt A. Jepps	MFT	Capt I. Blandford	FTM (S)
Capt P. Healey	CP (Airbus)	Capt M. Wilson	DFTM (S)
Capt T. Boyd	DCP (Airbus)		

2.6.3.3 TELEX CODES

The Telex Code used by the Flight Operations Department when granting dispensations will be HKGOAKA.

2.6.3.4 SCOPE OF AUTHORITY

a. The authority to grant OPERATIONS DISPENSATIONS to the Operations Manuals does not extend to the requirements of the Director of Civil Aviation Approved Schemes and certain specific documents. Therefore when considering operation of the intended flight on an OPERATIONS DISPENSATION a review of the following is required as the scope of authority does not apply to these areas:

AN(HK)O

Aircraft Flight Manual

Configuration Deviation Lists

Approved Training Programmes

Approved Flight Time Limitations Scheme (Legal requirements)

“LIMITATIONS” Section of the Operations Manuals

Specialised Means of Navigation

Aerodrome Operating Minima

Any other such Approved Schemes or Documents which may exist or be subsequently introduced.

b. As amended from time to time.

2.6.3.5 COMMUNICATION AND CONSULTATION

a. The selected Flight Operations Department Management appointees, authorised by the General Manager Operations to grant OPERATIONS DISPENSATIONS to the requirements of the Operations Manuals and being personally responsible for such, are to consult the following personnel, as appropriate, in the process of their decision making:

Manager Line Operations

Assistant General Manager Operations

Assistant General Manager Flying

Chief Pilot (Fleet)

Technical Manager (Fleet)

Flying Training Manager (Fleet)

CX Manager Aircraft Performance

CX Flight Planning & Navigation Services Manager

Manager Security

CX Engineering Department personnel authorised to co-sign Dispensation Telex.

b. In the event that an authorised management appointee is not type qualified, he must ensure that in-depth consultation with type qualified personnel, as listed above, is undertaken prior to granting of any OPERATIONS DISPENSATION.

A complete operational library with full amendment service is located in the Integrated Operations Centre (IOC). When domestic manual access becomes a limiting factor in decision making, for either Operations or Engineering Department authorised personnel involved, they must proceed to the IOC to access the required reference material. Additional consultation is also to take place within the Company, and with such other organisations where necessary, to ensure that acceptable levels of safety are not compromised.

c. Outside normal office hours, or if the Flight Operations Authorised Manager is not in the office, details of the Operations Dispensation may be provided to CX IOC by e-mail or telephone.

If the information is provided by telephone, the CX IOC Duty Manager must compile the telex and contact the Flight Operations Authorised Manager to confirm that the details are correct.

2.6.3.6 REFERRAL TO HONG KONG CIVIL AVIATION DEPARTMENT FLIGHT OPERATIONS INSPECTORS (CAD FOI)

a. The HK CAD duty FOI must be advised, and authorisation obtained, prior to issue of an OPERATIONS DISPENSATION which is outside the requirements of the MMEL or AN(HK)O.

A record of contact with the CAD FOI is to be made on the Operations Dispensation Form KA/OPS/07.

b. When an OPERATIONS DISPENSATION is issued, the Flight Operations Inspector responsible for the fleet must be advised by copy of KA/OPS/07 within 10 days.

2.6.3.7 DISPENSATION FORM PROCEDURE

a. An OPERATIONS DISPENSATION (KA/OPS/07) may be issued only by selected Flight Operations Department Management appointees granted this authority by

the General Manager Operations and promulgated in the Operations Manuals. Reference must also be made to the Air Operators Certificate and AN(HK)O as amended. A checklist is included in Form KA/OPS/07 to assist in this review and must be completed to render the issuance of the OPERATIONS DISPENSATION valid.

b. An Operations Dispensation (KA/OPS/07) sample is shown on page 22.

c. The OPERATIONS DISPENSATION may be transmitted to the Commander by any convenient method, including voice, provided a dispensation serial number is quoted and the relevant telex is sent at the earliest time possible.

The Telex must include the name of the Flight Operations Department originator and the requesting Commander, it must also include the name of the Engineering Department specialist and where appropriate the CAD FOI as co-signatory(s). The engineering department signatory will permit the authorisation and endorsement of the Aircraft Maintenance Log prior to departure of the flight.

2.6.3.8 DISPENSATION FORM DISTRIBUTION

Original : Manager Line Operations.

Copy :

AGMF, DMLO, LOM, CP(Airbus), TMA, FTM(A330), FTM(A320) as appropriate.

Head of Corporate Safety & Quality.

Duty Manager IOC.

Head of Engineering.

Civil Aviation Department (Flight Operations Inspector responsible for fleet).

All Operations Dispensations Forms and Engineering Department Concession Notes issued in connection with the granting of an OPERATIONS DISPENSATION to an Operations Manual(s) will be reviewed by the Air Safety Review Committee.

2.6.3.9 TELEX REQUIREMENTS

a. The Operations Dispensations Form KA/OPS/07 is to be completed and circulated promptly in accordance with the distribution list. The original is to be retained by Manager Line Operations for Air Operators Certificate monitoring and inspection.

b. The text of the Dispensation Form will be transmitted to the Commander by telex as follows:

TO: Station COPY: Station MM and as required

FROM:

SERIAL NO:

ATTENTION: Captain

TEXT:

VALID FOR: B-_____ KA _____SECTORS _____ - _____

SIGNED: _____ ENGINEERING SIGNED: _____ FLT OPS

c. The dispensation serial number, supplied by IOC, must be detailed in the Maintenance Log to support compliance with Airworthiness Notice No. 52.

2.6.3.10 TELEX CONTENT

The text of the Dispensation Telex Form KA/OPS/07A, has three sub-headings. An example of section content is included.

a. Problem

A brief description of the problem.

e.g.

Dispatched HKG-CTU with L2 escape slide inoperative. During turn-round, door R2 slide arming lever damaged and unable to arm door.

b. Operations Procedure to be used and/or limitations to be observed.

This should contain the directions to the Capt.

e.g.

i. CAD approval has been obtained to carry out a single sector ferry flight to such place as repairs can be made.

ii. Passengers may not be carried.

iii. Doors L2 and R2 are not to be used for any purpose, and are to remain disarmed for the duration of the flight.

iv. All remaining exits and escape slides must be operative.

v. All other provisions of MEL 52-10-01 must be complied with.

c. Engineering Procedure

i. The procedure to be used.

e.g. "NO EXIT" placard to be displayed at doors L2 and R2.

ii. It should be noted that it is not a requirement that all the technical details be listed on the Operations Dispensation telex. These will be issued by Engineering Department and recorded on a Concession Note. The Concession Note is not transmitted to the aircraft.

Given the above example, the telex would read as follows:

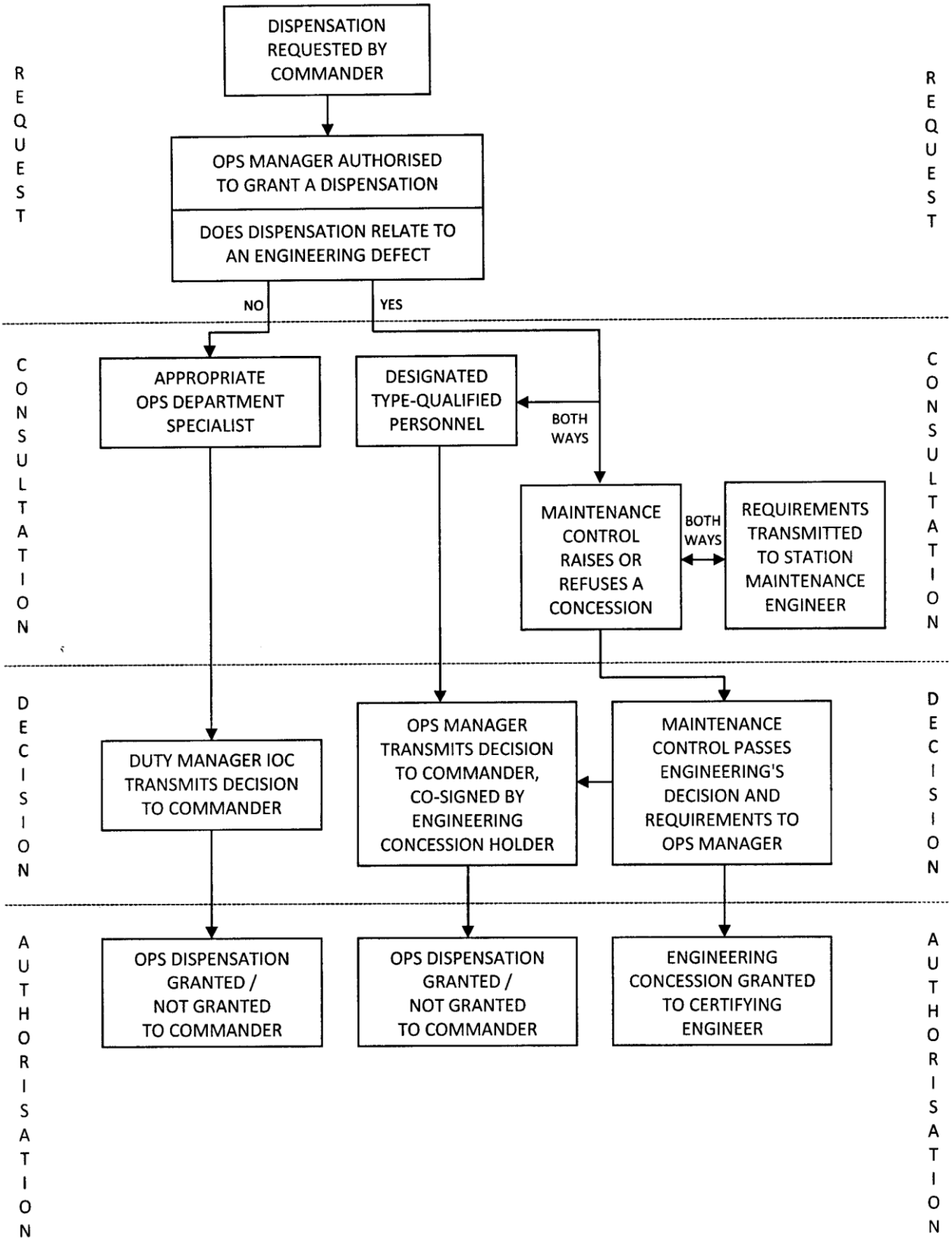
- Ops/Eng Dispensation is granted to operate B-HSH, KA821 CTU-HKG, with Doors L2 and R2 inoperative.
- This sector is to be a ferry flight. Carriage of passengers is prohibited.

iii. Maintenance Concessions Procedures to support Operations Dispensations are covered in the Engineering Organisation Maintenance Procedures Manual (EOMP) 4-5 and Engineering Procedures Manual (EPM) 7B-3.

THIS COLUMN IS NOT TO BE TRANSMITTED	**HONG KONG DRAGON AIRLINES LIMITED** **OPERATIONS DISPENSATION TELEX FORM** DRAGONAIR
	QU
TO	_____ _____ _____
STATIONS	HKGMICX HKGMLCX HKGMMCX HKGWNCX HKGXEXH HKGMMKA HKGOAKA HKGOKKA HKGOZKA
FROM CODE	HKG _____ URGENT
SERIAL #/YEAR	SERIAL # _____ / _____
REQUESTING CAPTAIN'S NAME	ATTENTION CAPTAIN _____
TEXT DELETE ENG AS NECESSARY	OPS / ENG DISPENSATION IS GRANTED TO OPERATE
A/C REG FLT NBR SECTOR	B- _____ KA _____ _____ WITH
PROBLEM	_____ _____ _____ _____ _____
OPERATIONS PROCEDURE TO BE USED AND/OR LIMITATION TO BE OBSERVED	_____ _____ _____ _____ _____
ENGINEERING PROCEDURE TO BE USED	_____ _____ _____ _____ _____
AUTHORIZED MANAGER OR DUTY ENGINEER	SIGNED: _____ NAME: _____

KA/OPS/07A (Rev 01, 05MAY10)

2.6.3.11 OPERATIONS MANUAL DISPENSATION FLOW DIAGRAM



DRAGONAIR

HONG KONG DRAGON AIRLINES LIMITED
OPERATIONS DISPENSATION

S/N: _____

DATE: _____ TIME: _____ A/C TYPE: _____

STATION: _____ FLT NO: KA _____ REGN: B - _____

*Details of Operational Occurrence / Engineering Unserviceability:

Dispensation Document / Approved Scheme Review Checklist:

AOC doc	☐	FCOMs	☐	MEL / CDL / DDG	☐	LIMITATIONS:	
AN(HK)O	☐	Ops Manual Part A	☐	Duty / Rest Regulations	☐	Flight Manual	☐
Flight Manual	☐			Approved Trng Scheme	☐	Ops Manual	☐

Details of Dispensation Granted:

(1) Captain:

(2) Text:

(3) Period of Validity:

(4) Planned Corrective Action:

CAD FOI approval. Name:

Engineering Concession	Telex Ref:	Concession S/N:	MEL Ref:

Specialists consulted:
Operations: Others:
Engineering:

Dispensation authorised by Operations:

Manager's Name: Signature:

Telex Ref: Appointment:

*Delete as required

JUSTIFICATION

USE ADDITIONAL SHEETS IF REQUIRED.

INTENTIONALLY BLANK

TABLE OF CONTENT

INTENTIONALLY BLANK

3 QUALITY SYSTEM

3.1 SAFETY MANAGEMENT SYSTEM (SMS)

3.1.1 INTRODUCTION

Safety Management is defined as the systematic management of risks associated with flight operations, related ground operations and aircraft engineering or maintenance activities to achieve high levels of safety performance.

A Safety Management System is an explicit element of corporate management responsibility which sets out a company's safety policy and defines how it intends to manage safety as an integral part of its overall business. Success in a company's safety performance shall be greatly strengthened by the existence of a positive safety culture. Safety culture in an organisation can be described as the way in which it conducts its business and particularly in the way in which it manages safety. It emanates from the communicated principles of top management and results in all staff exhibiting a safety ethos, which transcends departmental boundaries.

Dragonair Safety Management System (SMS) contributes towards the overall safety culture within the airline, which by definition is harder to document and measure precisely. Refer to Dragonair Safety Management System Manual for details of the policy and procedures.

Dragonair Operations Division complies with requirements contained within AN(HK)O Article 102 and HK CAD 712 Safety Management System (SMS) for Air Operations and Maintenance Organisations. Dragonair Operations Division is conformance to the company SMS requirements.

3.1.2 COMPLIANCE POLICY

Each employee shall comply with the following standards:

a. The Civil Aviation Act 1949 (Overseas Territories).

b. The Air Navigation (Hong Kong) Order 1995.

c. The Hong Kong Civil Aviation Department Air Operator's Certificates Requirements Document.

d. Hong Kong Civil Aviation Department Directions, Approvals, Variations, Exemptions, and Permissions applicable to Dragonair.

e. Dragonair's Air Operators Certificate Limitations and Special Conditions.

f. Hong Kong Civil Aviation Department operational approvals issued to Dragonair from time to time.

3.1.3 CONFORMANCE POLICY

Each employee shall conform to the following requirements:

a. Dragonair Operations Manuals

b. Dragonair Operations Division Policy & Procedures Manuals

c. IOSA Standards and Recommended Practices (ISARPs)

d. Standards and Recommended Practices promulgated by ICAO, IATA and JAR-OPS shall, where applicable, be taken into consideration during the development and implementation of any internal operational policy and procedures.

3.1.4 SAFETY MANAGEMENT

Refer to Dragonair Safety Management System Manual for details of the policy and

procedures.

3.1.4.1 RISK MANAGEMENT

To ensure the existing and potential hazards to aircraft operations are identified, reactive and proactive processes are used to acquire quality, safety and security data in flight operations, operational control and flight dispatch, aircraft ground handling operations, cargo operations and aviation security. The processes include confidential or safety reporting, investigation of accidents/incidents, flight data analysis, observation of flight crew performance in line operations and training, quality assurance and/or safety auditing, safety information gathering, etc.

Hazards identified are analysed to determine the existing and potential safety risk to the aircraft operations using company risk index. Safety risks are assessed to determine the requirement for risk control actions. When required, risk mitigations are developed and implemented in flight operations, operational control and flight dispatch, aircraft ground handling operations, cargo operations and aviation security.

Risk management practices, as part of the SMS, are implemented in Operations Division. Auditors shall conduct hazard identification and risk assessment processes as required for audit finding categorisation. An Operations Division risk register shall be maintained and reviewed on an annual basis. All risk identified shall be reviewed by using risk management processes to meet the requirements of the SMS including hazard/risk identification, risk analysis and risk evaluation.

3.1.4.2 OPERATIONAL REPORTING

Air Safety Reports (ASR) are required to be submitted by flight crew for reporting safety hazards, expose safety deficiencies and raise safety or security concerns in flight operations, operational control and dispatch, ground handling operations and cargo operations.

Ground Safety Reports (GSR) are required to be submitted by ground staff for incidents and accidents related to ground handling and cargo activities.

ASRs and GSRs are reviewed and investigated to ensure that appropriate action is taken to address safety issues identified.

All Mandatory Occurrence Reports (MOR) shall be reported in accordance to HK CAD382 as described in Chapter 11.3 of this manual.

A Confidential Human Factor Report (CHFR) can be filed by any crewmember to Head of Corporate Safety and Quality (HCSQ).

The Cockpit Crew Fatigue Reporting Form (CCFRF) is to be used by the cockpit crew to report fatigue if and when it occurs.

3.1.4.3 SAFETY PERFORMANCE MONITORING AND MANAGMENT

Flight operations, operational control and dispatch safety performance targets are set through the Flight Operations Safety Review Committee Meeting (FOSRC) and approved in the Airline Safety Committee Meeting (ASCM).

Ground handling operation and cargo operations safety performance targets are set through the Ground Safety Review Committee (GSRC) and approved in the Airline Safety Committee Meeting (ASCM).

The following statistics are available by Corporate Safety and Quality Department:

a. Primary safety and quality targets

b. Frequency of MORs

c. Breakdown of ASRs

d. ASR/CSR MOR Accountability by Department

e. Review of Fleet MORs/ASRs Monthly

f. Review of Rejected Take-offs and in flight shutdowns

g. Basis Analysis by Fleet and Aircraft Type

h. Rejected Take-off analysis

i. In flight shutdown analysis

j. Relevant Flight Data Analysis as required

3.2 QUALITY

3.2.1 QUALITY SYSTEM

Dragonair's Quality System is a component part of the overall SMS. It supports the ongoing and continued integrity of the AOC and is built around a framework of policies and requirements that are intended to ensure regulatory compliance and minimise system and process variation. This is for the purpose of ensuring that the required level of safety performance is achieved on an ongoing basis. It includes an active audit and inspection oversight activity.

The Quality System consists of two component parts these being Quality Management and Quality Assurance.

Quality Management is a system based approach to the realisation of acceptable safety and associated business practice outcomes.

Quality Assurance is an oversight activity that aims to ensure that quality imperatives are achieved at the required level of performance on an ongoing basis.

3.2.2 QUALITY POLICY

Dragonair is committed to a culture that is underpinned by the principles and practices of quality. Quality related activities underpin all safety outcomes. In this regard, Quality means Safety.

It is the primary objective of the Operations Division to operate Dragonair aircraft in a safe, secure, efficient and effective manner. Safety violations and unsafe operations are unacceptable. These Quality imperatives are the responsibility of all Operations Division staff and it does not reside in any one particular section of the organization. To achieve this goal all staff shall:

a. Meet statutory and regulatory requirements at all times.

b. Be empowered to carry out assigned tasks in accordance with company instructions.

c. Perform assigned tasks correctly first time and every time.

d. Meet, and where possible, exceed customers expectations.

e. Seek to achieve continuous improvement of all products and services.

Quality begins with design and development, is underpinned by systems and process capability, and is fundamentally focused on meeting the needs of internal and external customers.

All Quality related activities should add value to Operations Division activities and be consistent with the Goals and Objectives of Dragonair.

3.2.3 SCOPE OF THE QUALITY SYSTEM

Dragonair Operations Division Quality System includes all aspects of company technical operations including Flight Operations, Cargo, Airports, Online Ports, Security, Dispatch and Flight Safety.

Quality system requirements and related procedures are described in detail in the Corporate Quality Manual, Operations Manual Part A Chapter 3 Quality System and Operations Division Quality Assurance Policy and Procedures Manual.

3.2.4 ROLES AND RESPONSIBILITIES

Quality policies and requirements are specified in the Corporate Quality Manual, which forms the basis for all Quality System implementation.

The Chief Executive Officer of Dragonair is the accountable person who has corporate

responsibility for ensuring that all operations and maintenance activities are financed and carried out to the standard required by the Hong Kong Civil Aviation Department. This includes any additional requirements defined by Dragonair in the Operations Manual. In the case of the ongoing integrity of the Air Operators Certificate, this responsibility has been delegated to the General Manager Operations (GMO) who has further delegated this responsibility in accordance with his Terms of References in Operations Manual Part A Chapter 1.

Operational Managers are responsible for quality, safety and security outcomes, including the implementation and monitoring of safety, security and quality activities and processes, and for ensuring ongoing compliance with all regulatory requirements, organisation standards and local procedures. This responsibility includes implementation of corrective and preventative actions identified by quality audits, safety investigations and/or other internal reporting mechanisms.

The Operations Division shall ensure the availability of Organisation Charts and Terms of Reference which define the responsibility, authority and the interrelation of personnel who manage, perform and verify work affecting quality. However individuals are responsible for their own work in the course of achieving business objectives.

The General Manager Operations has appointed the Manager Operations Standard & Quality to be the Quality Representative. This position is responsible for ensuring that the Operations Division is conforming to the company Quality System requirements.

The Quality Representative has a communication line to the Head of Corporate Safety and Quality on quality matters through which, when considered necessary, issues of significance may be passed for consideration and possible action. The Quality Representative shall have full access to all those departments within Dragonair which have AOC responsibilities.

3.2.5 QUALITY MANAGEMENT

This Quality Management Policy sets out the quality management, objectives and philosophy of the Dragonair Operations Division.

3.2.5.1 STAFF TRAINING

All Operations Division staff shall be qualified on the basis of appropriate education, training and/or experience. Procedures are to be developed and documented to ensure that training needs are identified and provided for all personnel involved in providing the Operations Division products or services required by the Operations Manual. Special training in aviation security, dangerous goods training and Safety Management System training shall be provided to all concerned operations staff. Where it is determined that training is required, procedures and syllabi shall be developed and documented. Appropriate records of training shall be maintained.

All personnel carrying out verification activities shall be trained and competent to carry out their duties. In addition, records of all such training shall be kept as quality records.

3.2.6 DOCUMENTATION AND RECORDS

All Operations Division documentation and records shall maintain the consistency and integrity of system and process outcomes. Effective document and record control systems including loose document control, format, distribution and revision control shall be implemented and continuously improved. Manual hierarchy is defined and implemented. Policy and Procedure Manuals covering all operational functional activities should be created and upkept. Regular reviews are conducted by PPM owners. Effective and efficient electronic format of documentation for operational use should be delivered.

3.2.6.1 OPERATIONS MANUAL AUTHORITY

Relevant Volumes of the Operations Manual shall be available either in physical or

electronic form to all Operations Division staff, and to those Dragonair position holders who have responsibility for AOC related activities. All staff shall comply with the stated policies and procedures of the manual, which are relevant to their position. Should anything in the manual be inconsistent with legally applicable requirements, the legislation shall take precedence. Any legal inconsistency or any suggestions for improvements shall be notified to the Operations Division Quality Assurance Office or any member of Operations Division management.

The Operations Manual shall be subject to ongoing review by responsible managers for suitability of policies and procedures. The Operations Manual is the property of Dragonair Operations Division. It shall not be copied or communicated, in whole or in part, to any person not employed by Dragonair without the written permission of the General Manager Operations. Dragonair retains the copyright for the Operations Manual.

3.2.6.2 OPERATIONS MANUAL STRUCTURE

A suite of Operations Manual Part A, B, C and D and supplementary documents support the Dragonair Quality Management System. These manuals and supplementary documents contain the policies and activities required to support the continued validity of Dragonair's Air Operators Certificate and related business processes. The Manuals cover operational and training policies, procedures and instructions to ensure regulatory compliance in support of the Air Operators Certificate including Standard Operating Procedures (SOP) for use by crew operating aircraft. These manuals are subject to acceptance by Hong Kong Civil Aviation Department, except that the Minimum Equipment List, and the Approved Flight Time Limitations Scheme, are required to be approved by the Hong Kong Civil Aviation Department. An index for, and the owner, approver and content of, each of the Operations Manuals shall be provided in the "Operations Manual Structure" in Part A Chapter 0.

Policy and Procedures Manuals defining policies and procedures relating to the Operations Division business processes at departmental and sub-departmental level are to be produced. The manager of the office is the owner of the departmental Policy and Procedures Manuals. He is responsible for the development, review and amendment of the manuals.

Hong Kong Civil Aviation Department Approved Manuals are manuals approved, or provided, by the Hong Kong Civil Aviation Department which support approved or authorized activities carried out on behalf of the Hong Kong Civil Aviation Department.

From time to time Operational Notices and Flight Crew Notices are issued. These, whilst in force, form part of the Operations Manual.

Supplementary Documents of Operations Manuals comprise Guides, Handbooks, Briefing Cards, Syllabi & Training support material.

3.2.6.3 DOCUMENT AND DATA CONTROL

Documents and data shall be managed in accordance with the following:

a. A Master copy of each manual shall be maintained by the Operations Division Flight Publications Section.

b. A senior person (approver) shall be nominated as being responsible for approving the contents, and changes, for each manual.

c. A senior person (owner) or senior persons shall be nominated as being responsible for reviewing, administering and controlling the contents and procedures for each manual. The nominated owner may delegate this activity, but not the responsibility.

d. A scheduled generation of back up files shall be provided for electronic documentation system.

e. Invalid or obsolete documents that are no longer in use must be effectively

disposed of and completely removed so as not to be available.

f. Obsolete, invalid or uncontrolled documents that are retained are to be identified as such.

These include the following:

a. Quality Manuals.

b. Quality system procedures. (QA Policy and Procedures Manual)

c. Operations Manual.

d. Organisation charts.

e. Operational documentation.

f. Terms of References.

3.2.6.4 OPERATIONAL RECORDS CONTROL

The Operations Division shall develop and maintain quality records which shall form part of the analysis process used to determine if the service provided is meeting customer requirements and the level of effectiveness of the quality system. All quality records, including electronic data, shall be maintained for legibility and protected from deterioration, loss and damage. A scheduled generation of back up record files shall be provided for electronic record systems. Procedures for the identification, storage, archive retrieval, retention periods and disposition of records shall be defined and documented. In the case of personal information, all records shall be secured from access by non-authorized persons.

These include the following:

a. Management Review reports.

b. Corrective action reports.

c. Check and training reports.

d. Audit and any other verification reports.

e. Commanders Administration Report.

f. Flight crew operating data

g. Safety reports

h. Personal files

i. Training records

3.2.7 OUTSOURCING OR CONTRACTING OUT

Control shall be established over products and services affecting safety and quality provided by external parties to ensure that internal requirements are met.

A contract or service level agreement shall be established between Dragonair and the Service Providers. Such contract or agreement shall identify measurable specifications that can be monitored to ensure that the services provided meet regulatory, Dragonair company requirements and IOSA ISARPs.

Operational audits of out-sourced or contracted-out functions, or programmed monitoring, shall be conducted as the means of achieving safety and quality oversight.

In the case of “code share” or “wet lease” operations, control is exercised by programmed monitoring. This is achieved by:

a. Oversight by inspection of flight support facilities and processing of flight documentation;

b. Product control of those data or products acquired from external suppliers. The

product control process shall be subject to quality oversight;

c. Application of service level agreements that clearly define and identify those responsible for safety and quality issues

d. An ongoing safety assessment process.

3.2.8 MANAGEMENT COMMUNICATION

All managers shall ensure effective and efficient communication with both peers and subordinates particularly in respect of operational safety and regulatory compliance issues. The purpose of effective communication is to ensure that integrity is maintained within the Operations Division Quality System. Copies of any operational safety related communication shall be retained for the purpose of audit traceability.

The normal medium for formal written communication between Operations Division Management and staff regarding operational policy and related management direction is via the Operations Manual, Operational Notice or Flight Crew Notice. Operational Notices and Flight Crew Notices form part of the Operations Manual. The Operational Notices are required to be read and digested by flight crew prior to flight.

The use of other informal types of communication (e.g. e-mail, newsletters, bulletins etc.) as a medium of operational communication exist outside this system. It is therefore very important that effective discretion is exercised over the use and content of this type of informal communication.

Any informal communication should be of an informative nature only. This can duplicate or reinforce existing operational policy, for the sake of timely and remote distribution, that has previously been transmitted through formal channels. Informal communication must not be used as a sole source of operational policy delivery and must be supported by Operational Notices, Flight Crew Notices or Operations Manual amendments to ensure the integrity of operational communication.

It is essential that any information produced for distribution by informal means is clear to the reader and is not intermixed or confused with general information related to non-operational issues. Each communication should be clearly titled and deal with one operational issue at a time.

3.2.9 MANAGEMENT REVIEW

Formal “Management Review Meetings” shall be held at yearly intervals to review the suitability and effectiveness of the Quality System. Significant issues arising from quality assurance audits shall be reviewed in the meeting. This responsibility, or part thereof, may be delegated to an appropriate senior manager wherein it shall form part of the Terms of Reference. The following information is to be reviewed and analysed at such meetings:

a. Accident and safety related investigation reports.

b. Air Safety Reports, Commanders Administration Reports and Mandatory Occurrence Reports.

c. Statistical flight safety data analysis.

d. AOC related findings and associated recommendations generated by the Hong Kong Civil Aviation Department.

e. Operations dispensations.

f. Results of quality audits including data analysis.

g. Regulatory violations.

Management review meetings shall ensure that all corrective and preventative actions are both identified and promptly addressed.

Records shall be kept of these meetings and a file created specifically for the purpose of retaining the “Management Review Meetings” records. These records shall comply

with the Control of Operational Records Policy.

Items referenced a, b and c above shall be reviewed as part of the Air Safety Committee meeting.

3.2.10 QUALITY ASSURANCE

All aspects of Dragonair Operations Division Air Operator Certificate activities shall be subject to quality assurance oversight in the form of audits.

The Quality Assurance Office conduct a series of operational audits on the activities of Operations Division internal departments, Dragonair stations and contractors/sub-contractors as they relate to company aircraft operations. The audit goes beyond just checking compliance with regulatory requirements and conformity with the Dragonair standards.

The Operation Division Quality Assurance Office will assess whether the procedures in use are appropriate and whether there are any work practices that could have unforeseen safety consequences. All on-line ports are subject to quality assurance oversight in the form of Operations Division port audits. Results of these audits are presented to the annual management review. The objective is to maintain full compliance with the requirements of relevant legislation, the Company's Air Operator's Certificate and Company policy and procedures.

3.2.10.1 QUALITY AUDIT PROGRAMME

The Operations Division Quality Assurance Office shall establish and maintain documented procedures for the whole quality system to be periodically audited in a planned and systematic manner, in order to verify conformity with established policies and procedures. The audit shall evaluate the operations division management systems and operational functions to identify hazards, undesirable conditions and areas requiring improvement. In addition audit activity should consider the adequacy of established policy and procedure with a view to making recommendations for improvement of the management system.

An annual programme of audits, (the "audit plan"), shall be produced for each consecutive 12 month period. The audit plan shall include the internal audit of all functional activities of Dragonair Divisions that support the Company operations. This will include outport station services. Any contractor, other than a maintenance organisation, that provides operational services shall be included in the audit plan. The audit interval shall normally be every 24 months and not exceed three years.

Auditor selection shall be restricted to suitably qualified persons, who will report to the Manager Operations Standards & Quality.

An auditor shall not audit an area of the Operations Division where he or she has been substantially involved in the creation of, or significant amendment to, policies and procedures applicable to that area within the immediately previous two years.

3.2.10.2 INTERNAL AUDIT PROGRAMME

Quality oversight of the Operations Division internal activities is fulfilled by auditing and evaluation of the operational management system. This is achieved by:

a. Define internal audit modules, on the basis of functionality and associated annual audit plan and maintain its accuracy on an ongoing basis.

b. Develop Audit Checklists for all internal audits in according to HKCAD regulatory requirements and Dragonair company requirements.

c. Maintain and promulgate audit plans and associated checklists in AQD.

d. Implement internal audit programme.

e. Ensure full and competent utilisation of the Aviation Quality Database for quality audit including timely close out of all action items.

3.2.10.3 OPERATIONAL PORT AUDIT PROGRAMME

Quality oversight of Dragonair port operational activities is fulfilled by auditing and evaluation of front line operations. This is achieved by:

a. Define audit modules and associated annual audit plan and maintain its accuracy on an ongoing basis.

b. Develop Audit Checklists for Dragonair port audits including Dangerous Goods and HKCAD regulatory requirements.

c. Maintain and promulgate audit plans and associated checklists in AQD.

d. Conduct Dragonair port audit programme.

3.2.10.4 CONTRACTORS OR SUPPLIERS QUALITY OVERSIGHT PROGRAMME

Quality oversight of Dragonair contractors or suppliers is to ensure that all contractors or suppliers meet operational, safety and quality standards as required by Dragonair. This is achieved by:

a. Ensure that a documented contract or Service Level Agreement (SLA) defines required standards for suppliers of operational services, equipment and operational products relevant to that department.

b. Ensure department has implemented and maintained appropriate third party supplier oversight and that suppliers consistently meet expectations/standards.

c. Ensure processes are in place that ensure equipment or operational products relevant to the safety and security of aircraft operations, purchased from external vendors or suppliers meet the product technical requirements specified by Dragonair.

d. Improve and maintain ongoing diligence and compliance activity.

3.2.10.5 QUALITY AUDIT SCOPE

The following aspects of Operations activity shall be subject to audit as defined in the programme:

a. Organisation

b. Plans and company objectives

c. Operational and control procedures

d. Flight dispatch

e. Flight safety

f. Operator certification

g. Supervision

h. Aircraft performance

i. All weather operations

j. Communication and navigational equipment and practices

k. Mass, balance and aircraft loading

l. Instruments and safety equipment

m. Manuals, logs and records

n. Flight and duty time limitations, rest requirements and scheduling

o. Aircraft maintenance/operations interface

p. Use of the Minimum Equipment List

q. Defect deferral

r. Flight crew

s. Dangerous goods

t. Ground handling

u. Cargo services

v. Emergency response

w. Security

x. Training

3.2.10.6 QUALITY AUDIT

The quality audit processes will normally include, but not be limited to the audit scheduling and planning, auditors selection, audit preparation, opening meeting, on-site assessment, closing meeting, audit reports, corrective/preventive action follow up, closing findings, closing audits.

At the conclusion of each audit all findings, observations and recommendations shall be made available to the Manager Operations Standards & Quality and the General Manager Operations. All corrective and preventive actions shall be reviewed and accepted after the evaluation of actions taken to determine effectiveness. The Manager Operations Standards & Quality or Lead Auditor when appointed, shall be responsible for ensuring that all follow up actions are closed off within a reasonable (identified) time period.

The results of audits are to be documented, treated as quality records and submitted to the Management Review process. Records shall be kept of all audits on files created specifically for this purpose. These records shall include:

a. Identification of the auditee

b. The audit objective

c. An audit plan

d. Identification of the auditor(s)

e. The date the audit was performed

f. A list of the standards against which the audit was carried out

g. An outline of the audit process

h. A list of findings

i. Identification of root causes

j. Hazards or risks assessment

k. A list of corrective and preventative actions

The Manager Operations Standards & Quality or Lead Auditor, when appointed, shall make a certification as to the auditee status upon completion of the audit report.

INTENTIONALLY BLANK

TABLE OF CONTENT

INTENTIONALLY BLANK

4 CREW COMPOSITION

4.1 METHOD FOR DETERMINING CREW COMPOSITION

4.1.1 GENERAL

The method for determining crew composition must take into account the following parameters:

Type of aircraft being used;

- The area and type of operation being undertaken (e.g. long range, ETOPS, MNPS, LVO, Polar, etc.,) revenue, non-routine flight (See also Part A 8.7);
- The phase of the flight;
- The minimum crew requirement and flight duty period;
- Flight crew qualification and experience;
- The designation of the Commander and of the senior cabin crewmember, and, if necessitated by the duration of the flight, the procedures for their relief.

4.1.1.1 AGE RELATED RESTRICTIONS

Flight crew who have attained their 60th birthday may continue to operate provided the following conditions are met:

1. The flight crew member has not attained his 65th birthday.
2. The flight crew member acts as the Commander/PIC or as a co-pilot in an operation with more than one flight crew member and is the only flight crew member at the controls who has attained their 60th birthday.

4.1.2 FLIGHT CREW

The crew is to consist of a minimum of a qualified Captain and a Co-pilot on all flights.

Where limitations on flight duty period so dictate, additional pilots will be carried to provide in-flight relief for the designated Commander and co-pilot.

4.1.2.1 RELIEF OF FLIGHT CREW MEMBER

Where limitations on flight duty period so dictate, additional pilots will be carried to provide in-flight relief for the designated Commander and co-pilot. Excepting brief absences for physiological reasons, the Commander will nominate the Pilot in Charge for the period he/she is not at the controls. The Commander shall ensure that flight crew members leave their duty positions only for the performance of flight duties or to meet physiological needs. The Commander shall always occupy the left seat except when a Training Captain has been designated as Commander in the right hand seat.

The designated Commander and co-pilot shall occupy their normal control seats:

a. until the aircraft reaches its initial cruise altitude, and

b. shall resume their normal seats prior to the commencement of descent to landing.

Any pilot except a Training Captain not occupying their normal seat in cruise may only carry out PM duties except in accordance with the following paragraph. When the Commander is not at the controls, the nominated Pilot in Charge may only leave the flight deck for physiological reasons. The remaining pilot will assume both PF and PM duties and must be fully aware of the aircraft's current status and progress together with any other pertinent operational considerations. Should a situation arise which justifies a significant revision of the planned operation, the Pilot in Charge is to consult with the Commander on all major decisions.

4.1.2.2 INEXPERIENCED FLIGHT CREW MEMBER

CONSOLIDATION AFTER TRAINING

A period of consolidation is required after initial training.

The following restrictions apply to newly promoted Captains and newly joined, First Officers and Second Officers. They are not applicable following a change of type within the Company.

NEW CAPTAINS

For the first forty sectors, after being released to the line, they must not operate with a newly joined, First Officer or Second Officer.

For the first six months they are not be rostered to operate into any category C airport.

NEWLY JOINED, FIRST OFFICERS AND SECOND OFFICERS

For the first forty sectors, after being released to the line, they are not to operate with a new Captain.

NOTE: A new Captain is one who has completed fewer than 40 sectors after successful completion of Command training. A newly joined, F/O or S/O, is one who has completed fewer than 40 sectors after successful completion of the Line Check at the end of Initial Line Training.

4.1.2.3 CREW LINE CHECKS

When a Captain and Co-pilot are being checked as a crew in their normal operating capacity the Training Captain will occupy the centre supernumerary seat. The Training Captain may, at the commencement of any sector, assume command by occupying the left hand seat.

4.1.2.4 LINE TRAINING OF CO-PILOTS

Co-pilots are to be line trained by Training Captains. For the initial sectors a qualified co-pilot is also to be carried and will occupy the centre jump seat unless called upon by the training Captain to occupy the right-hand seat and operate as CM2.

4.1.2.5 SUPERNUMERARY FLIGHT CREW

For take-off and landing and during flight in turbulence the shoulder harness and lap belt is to be worn by supernumerary crew member.

4.1.3 CABIN CREW

4.1.3.1 MINIMUM NUMBER OF CABIN CREW

A minimum complement of {(4)}[8] cabin attendants will be carried on all flights.

There is no requirement for Cabin Attendants to be carried on a flight if there are no passengers on board.

The ANO defines a Passenger as ‘a person other than a member of the crew’.

4.1.3.2 OPERATIONS WITH NO ON-DUTY CABIN CREW

The following additional procedures apply to operations when there are no on-duty Cabin Crew on board:

PM shall include the cabin in his security check.

PM shall check and sign for the catering and ensure that the galley is secure with all electrical equipment switched off before take-off and landing.

Doors L1 and R1 shall be armed / disarmed by the PM.

The Captain shall ensure that any non-revenue passengers carried receive an emergency briefing.

4.2 DESIGNATION OF THE COMMANDER

4.2.1 GENERAL

The Commander of the aircraft will be the Captain nominated for the flight or series of flights and this will normally be the first name to appear on the General Declaration.

4.2.1.1 CAPTAIN AND CO-PILOT - NORMAL CREW COMPLEMENT

A qualified Captain shall normally occupy the left hand seat and a qualified Co-pilot the right hand seat. The crew member occupying the left hand seat shall be designated as Commander and is referred to as CM1, the crew member occupying the right hand seat as CM2.

4.2.2 COMMANDER NOMINATION IN CASE OF SPECIAL CREWING

4.2.2.1 CAPTAINS UNDER TRAINING/SUPERVISION

If a qualified Captain in the left hand seat no longer meets the recency requirements, or if a Co-pilot in the left hand seat is being trained as a Captain, then a Training Captain, designated as Commander, shall occupy the right hand seat and carry out the duties of CM2.

4.2.2.2 CAPTAINS FLYING TOGETHER

No Captain shall operate as CM2 unless he has completed a Proficiency Check and Line Check in the right hand seat. A Captain, other than a Training Captain, may not operate as CM2 unless he has been specifically authorised. When two Captains fly together the Commander will be designated as the pilot occupying the left hand seat, unless he no longer meets the recency requirements, in which case the pilot in the right hand seat will be designated as Commander. Only a Training Captain may act as Commander in the right hand seat.

4.3 FLIGHT CREW INCAPACITATION

4.3.1 GENERAL

If the Commander becomes incapacitated while in flight, the normal line of command will be as follows:

a. The nominated Pilot in Charge

b. The Safety Pilot

c. The First officer

d. The Junior first Officer

e. The Second Officer

In case of incapacitation of the Commander, the pilot assuming command is to operate from his/her normal control seat if possible. He/she will exercise judgment in deciding whether to return, continue to the destination or to land at an intermediate airfield with medical facilities. Should aircraft docking be required, this may only be accomplished by a pilot seated in his/her normal operating seat either using a guidance system calibrated for that seat or a marshaller. Failing this, the aircraft is to be towed onto the bay.

After landing, the pilot who has assumed command is to notify Operations giving details of the Commander's disability and will await further instructions; he is also to raise a Mandatory Occurrence Report (MOR). In any case the flight is not to proceed unless directly authorised to do so by DRAGONAIR.

INTENTIONALLY BLANK

TABLE OF CONTENT

5 QUALIFICATION REQUIREMENTS

5.1 GENERAL

5.1.1 LICENCES

All crewmembers have to carry with them the required licences/certificates with appropriate rating(s) to exercise their duties (as issued/agreed by CAD).

All crewmembers are responsible for the renewal of their licences/certificates.

5.1.2 RECENCY REQUIREMENTS

5.1.2.1 PILOT RECENCY

A pilot may not fly for the purpose of public transport unless he has in the preceeding 3 months carried out at least three manual takeoffs and three manual landings in an aircraft of the type to be used.

5.1.2.2 COMMANDERS RECENCY

A commander shall have made at least one takeoff and manual landing in the preceding 35 days.

5.1.2.3 COMMANDERS ROUTE COMPETENCY

The validity period is 13 months. Where after initial certification a commander has flown over the route in the preceding 13 months, re-validation is automatic.

5.1.2.4 COMMANDERS AERODROME COMPETENCY

Aerodromes are categorized “A”, “B” or “C”, depending on their difficulty.

The validity period for operations into category “B” and “C” aerodromes is 13 months. Competency renewal requirements are detailed in Part A Ch 8.1.2.2 ‘USE OF AIRPORT CATEGORY B AND C’.

5.1.2 RECURRENT TRAINING AND CHECKING

Each crewmember has to undergo recurrent training and checking relevant to the type or variant of aircraft on which they have to operate, as required by the authorities.

5.1.2.1 CONVERSION COURSE

A flight crew member completes a Type Rating course which satisfies the requirements applicable to the issue of Flight Crew Licences when changing from one type of aeroplane to another type or class for which a new type or class rating is required;

A crewmember is required to complete an operator's conversion course before commencing unsupervised line flying on commercial flights when:

- assigned to another aeroplane type or class rating,
- changing operator.

The conversion training must be conducted in accordance with the training programs approved by CAD.

These programs are available in the Training Manual.

The amount of training required for the conversion course can vary, taking into account the crew member's previous training and experience.

5.2. FLIGHT CREW

5.2.1 GENERAL

5.2.1.1 LICENCES

Flight crew members shall carry their licence(s) with them on all Company duties, including simulator duty and crew positioning. Crewmembers are to be in possession of valid licences as detailed below.

CAPTAINS

An Airline Transport Pilots Licence (ATPL) endorsed in Part 1 for the types which the Company requires him to fly containing up-to-date original certificates in respect of medical fitness, flying competency and Instrument Rating.

FIRST OFFICERS / JUNIOR FIRST OFFICERS / SECOND OFFICERS

At least a Commercial Licence (pilots who joined the company post 1 January 1997 must also have demonstrated knowledge at ATPL level), endorsed for the types which he is required to fly containing up-to-date original certificates in respect of medical fitness, flying competency and Instrument Rating.

MAINTENANCE OF LICENCES

It is the legal responsibility of the individual crewmember to ensure that he does not fly with an invalid licence, rating or medical certificate. CAD may take action against the licence holder in the event of a breach of this regulation. It is the legal responsibility of the Company to ensure that crewmembers are not rostered to fly with a licence, rating or medical certificate which will be invalid at the time of the flight. If a licence, rating or medical certificate discrepancy is thought to exist, the crewmember or member of staff concerned is to inform the Manager Crew Resources immediately. The maximum period of validity of aircrew licences is 10 years.

It is the sole responsibility of the individual to maintain a valid medical certificate and to arrange medical examinations for renewal. Individual crewmembers are to observe the provisions of the ANO article 20 (7) on the criteria for suspension of medical certificates.

Flight crew members shall ensure that the privileges of an ATPL/CPL licence or a Flight Radiotelephony Operator's licence are only exercised within the dates stated in section IX of the licence.

The holder of a licence is not entitled to exercise the privileges of their licence in public transport operations unless the following items are complete and correct:

1. On all pages on which the licence number is displayed, the licence holder's name shall appear in type print.
2. Both the ATPL/CPL and Flight Radiotelephony Operator's licences shall be appropriately signed by the licence holder.
3. The conditions stated under section XIII of the ATPL/CPL and Flight Radiotelephony Operator's licences are fully complied with.
4. The English Language proficiency endorsement shall be valid.
5. All details annotated on the Instrument Rating – Certificate of Test pages have been entered correctly.
6. All details annotated on the Aircraft Rating – Certificate of Test pages have been entered correctly.
7. The medical certificate is valid.

Licence holders shall ensure that only pages appropriate to their Hong Kong licence

and current aircraft type(s) are prominently displayed. Certificate of Test pages from previous types should be retained for a period of not less than 5 years.

Licence holders shall ensure at least one spare line is available on both the Aircraft Rating and Instrument Rating pages of their licenses prior to each Proficiency Check. Replacement Aircraft Rating and Instrument Rating pages are obtained from CAD (refer to Dragonet>Flight Crew Team>Training>Recurrent Training for details). Upon insertion of new Aircraft Rating and Instrument Rating pages into the licence, old pages should be retained in the licence for the following two subsequent Proficiency Checks.

Licences shall be maintained in good condition. New licence holders may be purchased from the CAD Licensing Office on presentation of the old licence holder.

PERIODS OF VALIDITY

Single Fleet Landing Recency

a. All Pilots

A pilot may not fly for the purpose of public transport unless he has in the preceding three months carried out at least three manual landings in an aircraft of the type to be used.

b. Commanders

A Commander shall have made at least one manual take off and landing in the preceding 35 days in an aircraft of the type to be used.

5.2.1.2 RENEWAL OF MEDICAL CERTIFICATES

Medicals may be taken at any time during the month in which they expire. Crewmembers are to inform the Crew Resources Department immediately of the result of their medical examination to allow the new certificate to be issued before the end of the month.

Appointments with the Approved Medical Examiner (AME should be made for the early part of the month to allow for processing of the paper work. Crewmembers are to include a FAX or e-mail contact number on the CAD Form 153 in case the AME wishes to contact the crewmember for urgent supplementary information.

The validity of the certificate may be extended by an (AME) by 14 days. Crewmembers who extend the validity of their medical certificates are to obtain the signature of the AME on the existing medical certificate and immediately send a hard copy (e-mail or FAX will suffice) of the endorsed certificate to the Crew Resources Specialist.

Crewmembers are to familiarize themselves with the detailed procedures published by the CAD by AIC on the renewal of medical certificates. A crewmember who cannot perform his flying duties because of a late renewal of a medical certificate will be allocated leave for the period concerned.

5.2.1.3 HONG KONG WORK VISAS

Crewmembers who require Hong Kong Work Visas are responsible for maintaining the validity of their visas. Any problems with visa renewal, which are likely to affect a crewmembers ability to perform his work duties, should be notified to the ICM – Reassignment and Control, Flight Crew Relations Manager and Manager Aircrew Personnel. A crewmember who cannot perform his flying duties because of a late renewal of a visa will be allocated leave for the period concerned.

5.2.2 OPERATION OF MORE THAN ONE TYPE OR VARIANT

5.2.2.1 MIXED FLEET FLYING (MFF) LANDING RECENCY

a. MFF Pilot Recency

An MFF pilot must complete a minimum of at least two take offs and two landings in either Type A or Type B and a minimum of one take off and one landing in the other Type in the preceding 3 month period.

b. MFF Commander's Recency

An MFF Commander shall have made at least one take off and one landing in either Type A or Type B in the preceding 35 days.

5.2.3 FLIGHT CREW QUALIFICATIONS REQUIREMENTS

5.2.3.1 CAPTAIN

- Must hold an applicable and valid licence acceptable to the Authority with IFR and type rating
- Must hold a valid medical certificate
- Must have successfully completed the command course (description given in the Training Manual).
- A total of 5,000 hrs is required for appointment to Captain, of which a minimum of 1,000 hrs must have been on large multi-engined aircraft. However, this total may be reduced when the individual has considerable previous experience or has shown during his time in the Company that he has above average command potential (refer to Crew Resources PPM).

5.2.3.2 FIRST OFFICER (CO-PILOT)

- must hold an applicable and valid licence acceptable to the Authority with IFR and type rating
- hold a valid medical certificate
- A total of 1,500 hrs is required for appointment to First Officer.
- Junior First Officer to First Officer promotion requires satisfactory completion of two years in the rank of Junior First Officer. An experience level below 1,500 hrs may be accepted in the case of sponsored ab-initio students provided an adequate standard of ability has been demonstrated.

5.2.3.3 JUNIOR FIRST OFFICER

- must hold an applicable and valid licence acceptable to the Authority with IFR and type rating
- hold a valid medical certificate
- Satisfactory completion of 12 months probation in the rank of Second Officer is required to up-grade from Second Officer to Junior First Officer.

5.2.3.4 SECOND OFFICERS

- must hold an applicable and valid licence acceptable to the Authority with IFR and type rating
- hold a valid medical certificate
- A total of 250 hrs is required for appointment to Second Officer. The requirement may be reduced to 200 hrs where the individual has completed an integrated course of flight and ground training approved by the Hong Kong CAD.

5.2.3.5 RELIEF QUALIFIED PILOT

To comply with Part A 7.1.13.4 'EXTENSION OF FDP BY INFLIGHT RELIEF' the minimum qualifications for appointment as Relief Qualified Pilot are:

- Appointment as First Officer
- Hold a valid HK ATPL
- Have completed 20 sectors on type post Final Line Check
- Have completed 200 hours on Company aircraft
- Have completed two recurrent Proficiency Checks, since joining the Company
- Be qualified in the seat requiring relief

5.2.3.6 PILOT IN CHARGE – MINIMUM QUALIFICATIONS

The minimum qualification to act as Pilot in Charge on Normal Operations where the crew is augmented for the purpose of extending a standard FDP in accordance with Part A 7.1.13.4 'EXTENSION OF FDP BY INFLIGHT RELIEF' as Relief Qualified Pilot will be in accordance with Part A 5.2.3.5 'RELIEF QUALIFIED PILOT'.

5.2.3.7 FLIGHT CREW OPERATIONAL RESTRICTIONS

First and Second Officers' Take Off and Landing

Commanders may, at their discretion, permit First Officers, Junior First Officers, and Second Officers (FOs, JFOs, and SOs) to carry out DAY or NIGHT take-offs and landings from the right-hand seat, subject to the following provisions:

- For landing, minimum LDA – 2500m.
- For take-off and landing, normal runway surface (no slush, snow, ice or standing water).
- For take-off and landing, no significant performance or control related failures.
- For take-off and landing, no combination of low visibility and crosswind likely to affect directional control.

The Captain must take control and carry out a landing or go-around (as the situation demands) if any significant and sustained deviation from the stabilisation criteria occurs below the stabilisation point.

First Officers' Take Off and Landing Limits

- Take off - maximum crosswind component 20kts.
- Landing - maximum crosswind component 20kts.
- Training Captains may, at their discretion, permit First Officers takeoffs and landings up to the maximum crosswind component limit.
- Reported cloud ceiling and RVR/visibility at or above CAT1 minima.

Junior First Officers' Take Off and Landing Limits

- Take off - maximum crosswind component15kts.
- Landing - maximum crosswind component 15kts.
- Reported cloud ceiling and RVR/visibility must be in excess of 500ft/2km.

- Training Captains may, at their discretion, permit Junior First Officers takeoffs and landings up to a crosswind component of 20kts.
- Training Captains may, at their discretion, permit Junior First Officers' takeoffs and landings with a reported cloud ceiling and RVR/visibility above at or above CAT1 minima.

Second Officers' Take Off and Landing Limits

- Take off - maximum crosswind component 10kts.
- Landing - maximum crosswind component 10kts.
- Reported cloud ceiling and RVR/visibility must be in excess of 1000ft/3km.
- Training Captains may, at their discretion, permit Second Officers takeoffs and landings up to a crosswind component of 20kts.
- Training Captains may, at their discretion, permit Second Officers' takeoffs and landings with a reported cloud ceiling and RVR/visibility at or above CAT1 minima.
- Takeoffs and landings are not permitted at CAT C aerodromes.

Command Training

First Officers undergoing Command Training may carry out take off and landings from the left-hand seat and, at the Training Captain's discretion operate to Commander's limits.

New Commanders

New Commanders must operate as PF until they have completed 100 hours or 30 sectors in command whichever occurs sooner.

Restrictions on Captains Inexperienced on Type

A Captain inexperienced on type is defined as either:

1. A Captain who has completed fewer than 20 operating sectors on type after Command Training, or
2. A Captain who has completed fewer than 8 operating sectors on type following Conversion Training. CCQ training on Airbus is not considered Conversion Training in this context.

The AOM restrictions applicable to Captains inexperienced on type are:

- Take off: Published Minima RVR + 200m (except failure of all lights case).
- Landing: Published DA +50ft and published RVR +200m.

These increments do not apply to LVO minima, alternate planning minima or ETOPS planning minima.

5.2.4 OTHER QUALIFICATIONS REQUIREMENTS

Refer to Part D 2.1.2.5 ‘SUPPLEMENTARY TRAINING’.

5.2.5 ROUTE AND AERODROME COMPETENCE

5.2.5.1 ROUTE COMPETENCE TRAINING

On routes with high terrain or special procedures, Line Operations will provide crews with a Route Briefing. Crews are required to review such briefings before commencing operations on these sectors. Crews are also required to review the Enroute Diversion Guides for nominated enroute alternates.

AREA COMPETENCE

Dragonair operations are permitted in AOC Regions A, B and C.

Area Competence shall be established during training by PE and review of the route briefings in Volume 5. Competency is valid for 13 months and shall be maintained by LINE OP, PE or SB. Validity shall be certified at the Annual Line Check.

ROUTE COMPETENCE

There are currently no routes with additional competency requirements on the Dragonair network.

5.2.5.2 AERODROME COMPETENCE TRAINING

Refer to Part A 8.1.2.1 'USABILITY OF AERODROMES - AERODROME CATEGORIES'

Refer to Part A 8.1.2.2 'USE OF AERODROME CATEGORY B AND C'

5.2.6 CREW RESOURCE MANAGEMENT (CRM)

CRM is the effective utilisation of all available resources (e.g. crewmembers, aeroplane systems, and supporting facilities) to achieve safe and efficient operation.

The objective of CRM is to enhance the communication and management skills of the flight crew. The emphasis is placed on the non-technical aspects of flight crew performance.

5.2.6.1 INITIAL CRM COURSE

The primary objective of CRM/TEM training is to contribute to incident and accident prevention. CRM/TEM is widely implemented in the aviation community as a training countermeasure to human error.

All new Flight Crew will be required to attend a 2 Day Initial CRM course, before commencing Flying Operations with Dragonair.

The course will be presented by two accredited CRM Facilitators.

The course shall include, but not be limited to the following topics:

- Teamwork
- Leadership
- Problem Solving
- Communication
- Assertion Training
- Risk Management
- Decision Making
- Safety Management Systems
- Stress Management
- Human Information Processing
- Situational Awareness
- Threat and Error Management (TEM)
- Monitoring
- Automation Complacency
- Drugs, Alcohol and Fatigue
- Company Behavioural Markers

5.2.7 EMERGENCY AND SAFETY EQUIPMENT TRAINING

5.2.7.1 INITIAL AIRCRAFT EMERGENCY PROCEDURES (AEP) TRAINING

Initial AEP training is to be carried out prior to commencing Line Training.

The syllabus to be covered on initial AEP training is in accordance with Part D 2.1.7 'SAFETY AND EMERGENCY PROCEDURES TRAINING'. Trainees are required to pass an examination. Successful completion of initial AEP training will result in completion of the Initial Survival Test.

Training will also be provided as follows:

- First Aid.
- Food Poisoning and prevention.
- Aviation Fuel / Hydraulic Fluid - Hazards to skin and eyes.
- Hypoxia / Hyperventilation - Symptoms, dangers and avoidance.
- Communication and use of ground based emergency facilities.

5.2.8 DANGEROUS GOODS TRAINING

Dragonair holds a Dangerous Goods certificate. All flight crew will complete a Dangerous Goods training programme. This will be followed by a test in Dangerous Goods procedures. This training will be conducted by the CX Safety Training Specialists.

Information on Dangerous Goods is also contained in Part A Chapter 9.

5.2.9 SECURITY TRAINING

Initial Security training is to be completed prior to commencing Line Training. The syllabus will be in accordance with Part D 2.1.7 ‘SAFETY AND EMERGENCY PROCEDURES TRAINING’.

5.2.10 RECURRENT TRAINING

Refer to Part D 2.1.6 ‘RECURRENT TRAINING AND CHECKING’.

5.3 CABIN CREW

5.3.1 CABIN CREW QUALIFICATION REQUIREMENTS

5.3.1.1 MINIMUM REQUIREMENTS

A cabin crewmember shall meet the following requirements:

- be at least 18 years old
- has passed an initial medical examination or assessment and be found medically fit for the duties
- remains medically fit to discharge the duties specified in the Operating Manual;
- be competent to perform his/her duties specified in the Operations Manual.

5.3.1.2 TRAINING AND CHECKING REQUIREMENTS

The operator ensures that each cabin crewmember has completed appropriate training as specified below, before undertaking assigned duties.

- initial training
- conversion or difference training
- familiarisation flights

Following training, each cabin crewmember shall have passes the prescribed checks in order to verify proficiency in carrying out normal and emergency safety duties.

Details of the programmes are included in Part D of the Training Manual.

5.3.1.3 SENIOR CABIN CREW MEMBER

A Senior Cabin crewmember shall be nominated whenever more than one cabin crewmembers are assigned. When only one cabin crewmember is required for the operation, however more than one cabin crewmember is assigned, one cabin crewmember shall be nominated to be responsible to the commander.

The senior cabin crewmember has responsibility to the commander for the conduct and co-ordination of cabin safety and emergency procedures specified in the Operations Manual. During turbulence, in the absence of any instructions from the flight crew, the senior cabin crewmember shall be entitled to discontinue non-safety related duties and advise the flight crew of the level of turbulence being experienced and the need for the fasten seat belt signs to be switched on. This should be followed by the cabin crew securing the passenger cabin and other applicable areas.

The designated senior cabin crewmember shall have at least one-year experience as an operating crewmember, and shall have completed an appropriate course.

The senior cabin crew must have completed CRM Training to a level required by the Senior Cabin Crew Course (See Part A 5.3.4.).

5.3.2 DANGEROUS GOODS TRAINING

Each cabin crewmember must have received training that covers at least the following:

- general philosophy
- limitations on dangerous goods in the air transport
- package marking and labelling
- dangerous goods in passengers' baggage
- emergency procedures

Recurrent training must take place within an interval of 2 years.

5.3.3 SECURITY TRAINING

The crewmembers must be trained to take appropriate action to prevent acts of unlawful interference and to minimise the consequences of such events, should they occur. The training programme is be compatible with the National Aviation Security programme and specified in the Training Manual.

5.3.4 CREW RESOURCE MANAGEMENT (CRM) TRAINING

Before being first assigned to operate as a cabin crewmember, a cabin crewmember shall have completed:

- an Introductory CRM Course; and
- an Operator's CRM Training; and
- an Aeroplane Type Specific CRM.

Cabin crew who are already operating as cabin crewmembers in commercial air transportation, and who have not previously completed those courses or training, shall complete them by the time of the next required recurrent training and/or checking.

The Introductory CRM Course shall be conducted by at least one cabin crew CRM instructor.

5.3.5 RECURRENT TRAINING AND CHECKING

Each cabin crewmember shall undergo recurrent training, covering the actions assigned to each crewmember in normal and emergency procedures and drills relevant to the type(s) and/or variant(s) of aeroplane on which they operate.

The period of validity of the recurrent training and associated checking is 12 calendar months in addition to the remainder of the month of issue. If issued within the final 3 calendar months of validity of a previous check, the period of validity will extend from the date of issue until 12 calendar months from the expiry date of that previous check.

The recurrent training and checking program includes theoretical and practical instruction and must be approved by the Authority.

Emphasis on a special subject will change every year.

The annual recurrent training covers:

- emergency procedures including pilot incapacitation
- evacuation procedures including crowd control techniques
- touch-drills for opening normal and emergency exits
- location and handling of emergency equipment, including oxygen systems and the donning by each cabin crewmember of lifejackets, portable oxygen and protective breathing equipment (PBE)
- first aid and the content of the first aids kits
- stowage of articles in the cabin
- dangerous goods procedures
- security procedures
- incident and accident review
- crew resource management.

Every 3 years the recurrent training will also include:

- the operation and actual opening of all normal and emergency exits for passenger evacuation, including failure of power assist system, in an aircraft or representative training device. This includes action and forces required to operate and deploy evacuation slides.
- demonstration of the operation of all other exits (including flight deck windows)
- realistic and practical training in the use of all fire-fighting equipment, including protective clothing representative of that carried in the aircraft.

  This training will include:

  - each cabin crewmember extinguishing a fire characteristic of an aircraft interior fire, except that instead of a Halon extinguisher, an alternative extinguishing agent will be used
  - the donning and use of protective breathing equipment by each cabin crew member in an enclosed simulated smoke-filled environment
- use of pyrotechnics (actual or representative devices)
- demonstration of the use of the life-raft or slide-raft where fitted

- Where the minimum flight crew is 2 or less, each cabin crewmember must be trained in the procedure for flight crewmember incapacitation and shall operate the flight crewmembers' seat and harness mechanisms. Training in the use of the flight crew members' oxygen system and use of flight crew member's check lists, where required by the operator's SOP's, shall be conducted by a practical demonstration.

5.4 TRAINING, CHECKING AND SUPERVISORY PERSONNEL

Details of personnel having a training, checking function as well as qualification requirements are provided in the Training Manual for:

5.4.1 FLIGHT CREW

Ground training instructors

Synthetic flight instructors: SFI

Type Rating instructors

Type rating examiners

5.4.2 CABIN CREW

Ground Training Manager

Safety Training Specialist

5.5 OTHER OPERATIONAL PERSONNEL

All personnel assigned to, or directly involved in, ground and flight operations shall:

- be properly instructed,
- have demonstrated their abilities in their particular duties, and
- be aware of their responsibilities and the relationship of such duties to the operation as a whole.

Details of training for other operations personnel are provided in Part D of the Training Manual.

5.5.1 FLIGHT OPERATIONS OFFICERS

Flight Operations Officers (Dispatchers) should have demonstrated a comprehensive knowledge in the use of Operations Manual, aviation legislation and laws, aviation regulations, ATC procedures, meteorology, aircraft general, performance and planning, computerised flight plan, navigation, radio communication, and in the English language.

INTENTIONALLY BLANK

TABLE OF CONTENT

INTENTIONALLY BLANK

6 CREW HEALTH PRECAUTIONS

6.1 GENERAL

6.1.1 STATUTORY REQUIREMENTS

No person may serve as a crew member knowing that he has a physical deficiency or mental condition that would render him unable to meet the requirements of his current medical certificate, to discharge his responsibilities to a safe standard or could endanger the safety of the aircraft or its occupants.

Crewmembers should not undertake flying duties whilst under the influence of alcohol or drugs.

These drugs include narcotics or any medicine that is not approved by the Company CAD Approved Medical Assessor (AMA) for use by crewmembers, such as sleeping tablet.

6.1.2 ILLNESS OR INCAPACITATION WHILE ON DUTY

Any crewmember who becomes ill or incapacitated while on flight duty or during a stop over period at an outstation must report the matter to the commander at the earliest opportunity.

Commanders should be aware that a sudden deterioration in health might be an indication of the onset of a dangerous or infectious complaint. Carriage of a flight crew or cabin crewmember who is ill is not authorised without permission from the AMA. Carriage of an ill crewmember could prejudice the Company's position in several ways:

- International health regulations;
- Liability to the staff member concerned, should a serious illness ensue;
- Invalidation of the insurance of the aircraft;

The Commander must ensure that a doctor is called at the earliest opportunity to examine the crewmember concerned. A certificate must be obtained stating whether the individual is fit for duty, or alternatively for travel. The Commander is authorised to arrange any tests necessary to ascertain the condition of the individual concerned.

A written report must be submitted by the Commander and the ill or incapacitated crewmember as soon as practicable after return to HK. The Commander should arrange for the arrival time of the concerned crewmember at the main base to be notified to the Medical department.

The Commander has an overall responsibility for ensuring that all of the crew is fit for duty, even if a report of sickness is not received. Where any doubt exists, the Commander must ensure that the individual concerned is seen by a doctor and that the report from that doctor is forwarded to HK, if possible on the flight concerned and, failing this, at the earliest opportunity.

In the case of the Commander being incapacitated the normal devolution of command to the First Officer applies (refer to Part A 4.3).

Procedures to be followed in case of crewmember incapacitation are detailed in Part A 8.3.1.12.

6.1.3 INTERNATIONAL REGULATIONS

The Commander must report all cases of illness onboard aircraft (excluding cases of airsickness and accidents) on landing at an airport. The details are to be given in the appropriate part of the Aircraft General Declaration. Cases of ill passengers disembarked during the flight must also be reported on arrival.

6.1.4 QUARANTINE REGULATIONS

When a passenger on board shows symptoms which might indicate the presence of a major disease, the Commander of an arriving flight must ensure that the airport medical or health authority have been informed.

It is the responsibility of the airport medical or health authority to decide whether isolation of the aircraft, crew and passengers is necessary.

On arrival of the aircraft, nobody shall be permitted to board the aircraft or disembark or attempt to off load cargo or catering until such time as authorised by the airport medical or health authority.

Each station, in conjunction with the airport medical or health authorities will devise a plan that would provide, when necessary, for:

- The transport of suspected cases of infectious diseases by selected ambulances to a designated hospital.
- The transfer of passengers and crew to a designated lounge or waiting area where they can be isolated from other passengers until cleared by the airport medical or health authorities.
- The decontamination of the aircraft, passenger baggage, cargo and mail and any isolation lounges used by passengers or crew suspected of having infectious diseases.

6.1.5 CONSUMPTION OF ALCOHOL, STIMULANTS AND MEDICATION

Dragonair has a strong commitment to ensure the welfare of aviation workers and to protect the lives and property entrusted to it. Use of alcohol or other drugs such as marijuana, cocaine, amphetamines, barbiturates and heroin in the workplace can endanger not only the individual user but also the public. It is a violation of Company policy for any safety-sensitive employee – defined by Hong Kong Civil Aviation Department as Flight Crew, Cabin Attendants, Air Traffic Controllers, Aircraft Maintenance Engineers - to start work within 10 hours of drinking alcohol.

For Dragonair Flight Crew this is more specifically defined as within 10 hours before the scheduled take-off of an aircraft to which they have been scheduled.

Note: 10 hours shall be considered an absolute minimum. Heavy consumption of alcohol shall take a longer period to clear from the body. Individuals metabolise medications at different rates and some medications may take longer than 10 hours to clear from the body. The Company expects crewmembers to exercise common sense and discretion as to when to cease consumption of alcohol and other psychoactive substances. If in any doubt, the AMA may be contacted for guidance.

Consumption of psychoactive drugs is illegal in the Hong Kong SAR. It is not acceptable for crewmembers to use, possess, traffic or sell illicit psychoactive substances, at any time during employment with Hong Kong Dragon Airlines Limited.

Note: “Psychoactive substances” means substances which are capable of causing dependency, alteration of moods, and impairment of judgement, concentration or coordination. This includes alcohol, medications, over the counter preparations and illicit drugs. The following are some examples of categories of psychoactive substances – opioids (heroin, codeine), cannabinoids (marijuana), sedatives hypnotics (tranquilizers, sleeping pills), cocaine, psychostimulants (amphetamines, ecstasy, ketamine), hallucinogens (LSD, mushrooms) and volatile solvents (glue). This list is illustrative and is neither exclusive nor exhaustive.

Aeronautical Information Circular 33/03 provides detail on the medicines and substances that are normally considered incompatible with flying or air traffic control duties. A copy of the Circular can be found on the Flight Operations intranet. A Company briefing package on the effects of drugs and alcohol on the average person

can also be found on the Flight Operations intranet.

Before undergoing a prescribed course of treatment of stimulants or drugs, crewmembers must first consult the AMA on the long-term affects of the treatment.

Once such treatment has commenced, crewmembers are not to undertake any flight duty without clearance from the AMA. The AMA is to provide a written explanation of the type of stimulants / drugs consumed together with clearance to operate authority directly to AGMO.

6.1.6 IMMUNISATION

Medical advice is to be sought concerning the period to be observed before returning to flying duties following an immunisation.

Crewmembers are responsible for the validity of their individual vaccination certificates. All data concerning the period of validity of a vaccination are given in the respective document. Crewmembers shall present their vaccination certificates to the appropriate authorities when required to do so.

6.1.7 DEEP UNDERWATER DIVING

Crewmembers who wish to carry out deep underwater diving must have completed the dive more than 24 hours before the commencement of a Flying Duty Period or Standby duty. This time limit only applies to normal non-compression diving. A deeper dive will require a longer recovery period and is only permitted during leave. Crewmembers are advised to obtain an accredited medical opinion on recovery periods following such diving.

6.1.8 BLOOD DONATION

A crew member shall not perform duties on an aircraft following blood donation except when a reasonable time period has elapsed.

Following a blood donation the volume of blood lost is made up in a matter of some hours but the cellular content can take some weeks to return to the previous level. Crewmembers should not volunteer as blood donors whilst actively flying.

However, crewmembers who still wish to donate blood may only do so more than 24 hours before the commencement of a Flying Duty Period or Standby duty.

6.1.9 MEAL PRECAUTIONS PRIOR TO AND DURING FLIGHT

Cases of acute food poisoning in the air continue to occur sporadically and surveys of incapacitation of flight crew in flight show that of these cases, gastro-intestinal disorders pose by far the commonest threat to flight safety.

No other illness can put a whole crew out of action so suddenly and so severely, thereby immediately and severely endangering a flight, as food poisoning.

Any food, which has been kept in relatively high ambient temperatures for several hours after preparation, should be regarded with extreme suspicion. This applies particularly to the cream or pastry, which is commonly part of a set aircraft meal. The re-heating process usually used in aircraft for the main course of a meal rarely destroys food poisoning organisms and the toxins they produce. These toxins are tasteless and cause no unpleasant odours.

Since the most acute forms of food poisoning frequently come on suddenly 1-6 hours after contaminated food is eaten, common sense rules should be observed as far as practicable in respect of meals taken within 6 hours of a flight.

For any crewmember, before and during flight it is essential to avoid eating easily perishable foods as well as foods and drinks served cold. This is most important with milk and cream products, mayonnaise, sauces, salads, meat pies and other meat products.

In order to eliminate, as far as possible, the risk of food poisoning, the captain and first officer should not partake of the same dishes before or during a flight.

- **Symptoms and treatment of poisoning**

  The character and severity of the symptoms depend on the nature, the dose of the toxin and the resistance of the patient. Onset may be sudden. Malaise, anorexia, nausea, vomiting, abdominal cramps, intestinal gurgling, diarrhoea and varying degree of prostration may be experienced. Bed rest with convenient access to bathroom, commode, or bedpan is desirable. Severe cases should be hospitalised. Treatment is mostly symptomatic and all cases should be seen by a medical doctor.

6.1.10 SLEEP AND REST

Although the controls on flight and duty periods are intended to ensure that adequate opportunities are provided for crewmembers to obtain rest and sleep, individuals should ensure that proper advantage is taken of such opportunities.

6.1.11 SURGICAL OPERATIONS

Aero-medical advice should be sought prior to returning to flying duties following any surgical operation. Refer Part A 14.10.

6.1.12 VISION CORRECTION

All flight crewmembers who are required by the licensing authorities to wear corrective lenses in order to satisfy visual requirements laid down for the granting of licences, are required to carry a spare pair of spectacles with them on all occasions whilst operating their licence.

Spectacles, either corrective or anti-glare, when worn by flight crew during flight should be of a type of frame that allows maximum peripheral vision. The examination for the prescription of a spectacle correction should ideally be carried out by an examiner with some understanding of the problems of vision in aviation.

- Near vision correction

  Where the only correction necessary is for reading, pilots should never use full lens spectacles while flying - because the pilot's task requires frequent changes from near to distant vision and the latter is blurred by reading glasses. Half moon spectacles or lower segment lenses with a neutral upper segment should be used in these circumstances.

- Near and distant vision correction

  Where correction for both near and distant vision is required, bifocal lenses are essential and pilots should discuss with their medical examiner the shape and size most suitable for each segment. Where triple correction is necessary for reading, the instrument panel range and distant vision, then specialist advice is required.

6.1.13 HUMIDITY

The relative humidity of cabin air is much lower in flight than that to which we are accustomed.

Coffee and especially black coffee, being a diuretic (kidney stimulant) can exacerbate the effects of reduced humidity. Symptoms resulting from low humidity are dryness of the nose, mouth and throat and general tiredness.

6.1.14 DIURNAL RHYTHM

It is a well-established fact that our bodies have a diurnal cycle or rhythm. This means

that our chemical, psychological and physiological activity are high during our normal waking hours, and are low during our normal sleeping hours. They reach the lowest point at about 4 a.m. When we fly across time zones, that is either east-west or west-east, we may interrupt our diurnal cycle. However, there is no proof that this is harmful to our health.

To minimise the tiring effects of interruption to our day-night biological cycle we should:

- when away from home adhere as much as possible to the home time for sleeping, eating and bowel function
- take adequate rest before flight
- eat light snacks at three or four hourly intervals to increase alertness.

6.1.15 FATIGUE

Fatigue is a physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase or workload (mental and/or physical activity) that can impair a crew member's alertness and ability to safely operate an aircraft or perform safety related duties.

A crewmember shall not commence a flight duty or continue a flight duty after an intermediate landing if he is aware that he is too fatigued or will be too fatigued before next landing.

The basic responsibility in fatigue management rests with the individual crewmember who should report for duty in a reasonably rested state and in an emotionally fit state to perform his expected duty. This includes attention to such factors as sleep, personal fitness and health, life-style and activities prior to flight. Due allowance for any adverse effects of these factors should be taken into account to ensure that fatigue which would significantly affect operating performance is not encountered during flight duties.

6.1.16 PREGNANCY

Any crewmember who becomes pregnant must immediately, upon becoming aware of such pregnancy, notify her management.

Certification of "unfitness to fly" shall be in writing from the attending physician and shall indicate the expected date of delivery.

Upon receipt of such a notice, the crewmember will be removed from flying duties.

INTENTIONALLY BLANK

TABLE OF CONTENT

INTENTIONALLY BLANK

7 APPROVED FLIGHT TIME LIMITATIONS SCHEME

7.1 FLIGHT AND DUTY TIME AND REST REQUIREMENTS

7.1.1 INTRODUCTION

7.1.1.1 Part VI of the Air Navigation (Hong Kong) Order 1995 [the Order] comprises Articles 53 to 56 and addresses the fatigue of crew. Operators and crew members are expected to be aware of the provisions of this legislation and their responsibilities in accordance with these Articles.

7.1.1.2 The Scheme applies to all operating crew members on board an aircraft and not merely those carried to meet the minimum crew requirements set out in Part V of the Order.

7.1.1.3 Holders of an Air Operator's Certificate utilising leased foreign registered aircraft will be directed under the provisions of Article 93 of the Order to comply with the requirements of the Order with respect to flight and duty time limitations.

7.1.1.4 Much of the text of this Scheme is presented in the third person singular. For conciseness, the pronoun "he" is used throughout. "She" should be substituted where appropriate.

7.1.2 OBJECTIVES OF THE SCHEME

7.1.2.1 The objectives of the Scheme are to ensure that crew members are adequately rested at the beginning of each Flight Duty Period (FDP) and that the duration and timing of individual Duty Periods will enable them to operate to a satisfactory level of efficiency and safety in all normal and abnormal situations.

7.1.2.2 The provisions set out in the Scheme are therefore concerned solely with the prevention of fatigue and the maintenance of vigilance in flight. They are not intended to take account of commercial circumstances, social considerations or lifestyle.

7.1.3 RESPONSIBILITIES OF DRAGONAIR

7.1.3.1 Dragonair the Company is required by law to take all reasonable steps to ensure compliance with the provisions of the Scheme.

a. The responsibility for issuing instructions and making decisions concerning the interpretation and application of the Scheme, and for the processing of Commander's Discretion Reports, is vested in the Assistant General Manager Operations.

b. In the absence of the Assistant General Manager Operations, immediate decisions on questions relating to this scheme may be made by the General Manager Operations, the Assistant General Manager Flying or the Duty Operations Manager.

7.1.3.2 The Company is required to ensure that all personnel involved in the application of the Scheme appreciate the relationship between the frequency and pattern of FDPs, Rest Periods and days off, and that due consideration is given to the cumulative effects of working long hours interspersed with minimum Rest Periods.

7.1.3.3 The Company is required to ensure that all crew rosters include sufficient physiological rest so as to avoid the onset of crew fatigue. To this end, individual Crew member's Assigned Duties will, as far as is practical, reflect the location of the Crew member's Home Base.

7.1.3.4 Factors to be considered when assigning Duties will include:

a. The undesirability of alternating day/night duties; and

b. Avoiding scheduling Rest Periods of between 18 and 30 hours duration except when rest is physiologically based; and

c. The effect of consecutive flights through, or ending within, the Window of Circadian Low; and

d. The notification to crew members well in advance of days off.

7.1.3.5 The Company is required to provide all Crew members, on induction, and periodically thereafter, with instruction on sleep strategy, fatigue management and fatigue countermeasures, and, where appropriate, the physiological effects of disturbing circadian rhythms. The distinction should be drawn between normal tiredness resulting from the physical and mental efforts of flight, and cumulative fatigue resulting from the interaction of sleep loss and circadian disruption which can lead to significant decreases in operational performance.

7.1.3.6 The Company must ensure that planned schedules allow for flights to be completed within the maximum permitted FDP, taking into account the time allowed for pre-flight duties, taxying, the flight and turnaround times. However, it is recognised that on occasions a Scheduled flight will experience unforeseen delays. Under these circumstances the Company may request the aircraft Commander to extend an FDP or, exceptionally, to reduce a Rest Period. Whilst the Company may only request the aircraft commander to exercise his discretion in the event of Service Disruption, this does not preclude the commander from individually exercising his discretion at other times.

7.1.3.7 The Company is required to prepare duty rosters sufficiently in advance to provide the opportunity for crews to plan adequate pre-duty rest. The company must establish minimum periods of notification of duty or where this is not practicable, must establish in advance minimum periods of notification of days off, during which a crew member will not be required for any duties.

7.1.3.8 The Company is required to provide accommodation for crew members when away from home base which allows the crew member the opportunity to obtain adequate preflight rest.

7.1.3.9 The Company will satisfy itself that crew members who are allowed, by the Company, to undertake other employment, still have the opportunity to obtain adequate preflight rest.

7.1.3.10 The Company will remain in communication with crew members on matters relating to this scheme and relating to rostering concepts, either by direct contact (e.g. surveys, electronic mail) and/or by discussion with representative groups.

7.1.4 RESPONSIBILITIES OF CREW MEMBERS

7.1.4.1 Responsibility for preventing the onset of fatigue cannot rest on the Company alone.

7.1.4.2 The formal responsibilities of crew members are set out in Articles 55 and 56 of the Air Navigation (Hong Kong) Order, and crew members are expected to be familiar with these provisions. In general terms they prohibit a person acting as a crew member if he knows or suspects that he/she is suffering from, or having regard to the circumstances of the flight to be undertaken, is likely to suffer from fatigue as may endanger the safety of the aircraft. They are not intended to cover instances where normal tiredness resulting from the physical and mental efforts of flying duty is likely.

7.1.4.3 A crew member is required to ensure that the Company is aware of his flight times during the preceding period of 28 consecutive days.

Note: Flight times in aircraft not exceeding 1,600 kg AUW are not accountable

7.1.4.4 Individual crew members will ensure that they are not in breach of the Scheme.

7.1.4.5 Crew members who undertake other employment must maintain an individual record of their flying and duty hours which must be presented to the Company before undertaking a flying duty on behalf of the Company.

7.1.4.6 All crew members will make optimum use of the opportunities and facilities for rest provided, and plan and use their Rest Periods properly. Crew members must

recognise that the responsibility for being sufficiently rested before undertaking a flying duty remains entirely with the individual.

7.1.4.7 No person will act as a member of the crew of an aircraft to which the Scheme applies, if the individuals know or suspect that their physical or mental condition renders them temporarily unfit so to act.

7.1.4.8 Travelling Time, from home to departure airport, is a factor influencing any subsequent onset of fatigue. If the normal Travelling Time from home to the normal departure airport is in excess of one and a half hours, crew members should consider arrangements for alternative accommodation nearer to the normal departure airport.

7.1.5 APPLICATION

7.1.5.1 The essentials of the Scheme are identified by use of the words 'will' or 'must'. The desirable features are introduced by the words 'should' or 'may'.

7.1.5.2 The Company and crew members must be aware that the existence of any industrial agreement cannot in any way absolve either the Company or the crew member from observing any of the conditions contained within the Scheme.

7.1.6 VARIATIONS

7.1.6.1 The Company may apply to the Civil Aviation Department (CAD) to incorporate variations from the Standard Provisions in this Scheme.

7.1.6.2 If the Company applies for permanent incorporation into this Scheme of any significant variation from the Standard Provisions, the Company will consult with crews or crews' representatives regarding the implementations of the variation(s). If no consensus is reached then both parties will report their respective positions to the CAD who will make the final decision.

7.1.6.3 The Company may from time to time apply for temporary variations from this Scheme which may be applicable only to certain aircraft fleets, schedule, route flights or "one off" flight. Temporary variations should normally be valid for a period not exceeding 6 months, after which, any further extension should be in the form of a permanent variation.

7.1.6.4 Interpretation of the Standard Provisions or of any Variation, lies with the Director General of the Civil Aviation Dept (DGCA).

7.1.7 DEFINITIONS

For the purpose of this scheme various terms have the meanings defined below ascribed to them.

7.1.7.1 ACCLIMATISED

a. When a crew member finishes a Duty Period at a place where the Local Time differs by more than 3 hours from his Home Base Local Time, straightaway he will be considered as Unacclimatised.

b. An Unacclimatised Flight Crew member will become Acclimatised again if:

i. He finishes a Duty Period at Home Base, or at a place with the same Local Time as his Home Base, no more than 48 hours after the start of the Duty Period that resulted in him becoming unacclimatised; or

ii. He has completed a Recovery Period.

c. An Unacclimatised Cabin Crew member will become Acclimatised again if:

i. He finishes a Duty Period at Home Base, or at a place with the same Local Time as his Home Base, no more than 48 hours after the start of the Duty Period that resulted in him becoming unacclimatised; or

ii. He finishes a Duty Period at Home Base, or at a place with the same Local Time as his Home Base, more than 48 hours after the start of the Duty Period that resulted in him becoming unacclimatised, and then has 3 consecutive Local Nights free of Duty within 3 hours time difference from Home Base Local Time.

7.1.7.2 AUGMENTED CREW

The boarding of extra Flight crew members for the purpose of providing relief at the controls.

7.1.7.3 CABIN CREW

A person on a flight for the purpose of performing, in the interest of safety of the passengers, duties assigned by the Company or the Commander of the aircraft, but who will not act as a member of the Flight Crew.

7.1.7.4 DOMESTIC DAY OFF (DDO)

A period at Home Base available for leisure and relaxation and free of all Duties. A single DDO will comprise a minimum period of 34 consecutive hours and will include two Local Nights. Consecutive DDOs will be extensions to a single DDO, will be of at least 24 hours duration and will include a further Local Night for each additional consecutive DDO. A Rest Period may be included as part of a DDO.

At the request of the individual crew member, and with the agreement of the Company, a DDO may be taken at other than the crew member's Home Base. In this case the crew member will be considered Acclimatised to the place where the DDOs are taken, provided that the conditions of 7.1.7.1 are met.

7.1.7.5 DUTY

Any task associated with the business of the Company. It includes any Flight Duty, Positioning, ground training, ground duties and Reserve Duty.

7.1.7.6 DUTY CYCLE

Flight Crew

A series of Duty Periods undertaken between DDOs.

Cabin Crew

A series of Duty Periods undertaken between Days Off.

7.1.7.7 DUTY PERIOD

Any continuous period during which a crew member is required to carry out Duty. It starts and finishes in accordance with the provisions specified in 7.1.8.

7.1.7.8 EXTENDED BREAK (EXB)

A period away from Home Base, normally in accommodation provided by the Company, during which the crew member is free of all Duties. An EXB will comprise a minimum period of 30 consecutive hours throughout which Suitable Accommodation is available to the crew member. A Rest Period may form part of an EXB.

7.1.7.9 FATIGUE RISK MANAGEMENT SYSTEM (FRMS)

FRMS is a scientifically based system to manage transient and cumulative fatigue, which will provide an equivalent level of safety as a component of a prescriptive FTL system, or may form the basis of an alternate FTL system.

7.1.7.10 FLIGHT CREW

Those members of the crew of the aircraft who undertake to act as pilot.

7.1.7.11 FLIGHT DUTY PERIOD (FDP)

Any time during which a crew member operates in an aircraft as a member of its Flight Crew or Cabin Crew. It starts at the Actual Reporting Time specified, by the company and finishes at on-chocks, or engines off, whichever is the later, on the final Sector, or when a crew member last vacates a control seat and is free of all flight Duty for the remainder of the flight, whichever is the earlier.

7.1.7.12 HOME BASE

The place nominated by the Company to the crew member, or as otherwise contractually agreed between them, from where the crew member normally starts and ends a Duty Cycle and at which place, under normal conditions, the Company is not responsible for the accommodation of the crew member concerned.

7.1.7.13 LATE NIGHT PERIOD (LNP)

The period 0100 to 0659 hours home base time zone to which a crew member is Acclimatised.

7.1.7.14 LOCAL NIGHT

A period of 8 hours falling between 2200 hours and 0800 hours Local Time.

7.1.7.15 NIGHT

The time between half an hour after sunset and half an hour before sunrise.

7.1.7.16 POSITIONING

The practice of transferring crew members from place to place as passengers in surface or air transport at the behest of the Company.

7.1.7.17 RECOVERY PERIOD

A period free of duty following a duty cycle of length greater than 48 hours during which the crew member became unacclimatised. A rest period and DDO(s) may form part of a recovery period.

7.1.7.18 RELIEF CREW MEMBER

A Flight Crew member carried on a flight as part of the operating crew for the specific purpose of allowing In-Flight Relief to be provided on that flight.

7.1.7.19 REPORTING TIME

The time at which a crew member is required by the Company to report for any duty.

7.1.7.20 RESERVE DUTY

A period during which the Company places constraints on a crew member who would otherwise be off Duty.

7.1.7.21 REST

The word “Rest” will be taken as meaning repose or sleep.

7.1.7.22 REST PERIOD

A period of time before starting a FDP which is designed to give crew members adequate opportunity to rest before a flight.

7.1.7.23 ROSTER

A means by which the Company notifies crew members in advance, of their Duties for the whole of the Roster Period.

7.1.7.24 ROSTERED /PLANNED DUTY

A duty period, or series of duty periods, with stipulated start and finish times, notified by the company to crews in advance. These may comprise or form part of a duty cycle.

7.1.7.25 SCHEDULED

The term 'Scheduled' will be taken to include other equivalent commonly used terms such as 'Planned' or 'Rostered'.

It will be construed as meaning what was intended to happen. However, when a crew member is called out from a period of Reserve Duty, the resulting Duty undertaken will not be considered as having been Scheduled.

7.1.7.26 SECTOR/SECTOR TIME

The time between when an aircraft first moves from its parking position until it next comes to rest, after landing, on the designated parking position.

7.1.7.27 SERVICE DISRUPTION

Unforeseen Circumstances which occur after the commencement of a FDP.

7.1.7.28 SLEEP OPPORTUNITY

A period which provides the opportunity to take at least 8 consecutive hours of horizontal rest in Suitable Accommodation.

7.1.7.29 SPLIT DUTY

A FDP which consists of two or more Sectors, separated by a period of Rest which is less than a minimum Rest Period.

7.1.7.30 SUITABLE ACCOMMODATION

A well furnished bedroom which is subject to minimum noise, is well ventilated, and has the facility to control the levels of light and temperature. For the purposes of this definition, Suitable Accommodation will normally be taken to mean:

a. The crew member's home or any alternative accommodation arranged by a crew member in accordance with 7.1.4.8.

b. Hotel accommodation provided by the Company.

7.1.7.31 TRAVELLING TIME

All time spent by a crew member transiting between the place of rest, and the place of reporting for or finishing a Duty.

7.1.7.32 TWO CREW AIRCRAFT

An aircraft certificated to be flown by a minimum Flight Crew of two pilots.

7.1.7.33 UNACCLIMATISED

Not Acclimatised.

7.1.7.34 UNFORESEEN CIRCUMSTANCES

Circumstances occasioned by operational reasons which occur after the commencement of a Duty Cycle.

7.1.7.35 WEEK

A period of seven consecutive days starting at 0000 Home Base Local Time on Monday.

7.1.7.36 WINDOW OF CIRCADIAN LOW

The period of 0200 − 0559 individual body clock time.

7.1.8 REPORTING & FINISHING TIMES

7.1.8.1 For the purpose of calculating a Scheduled FDP or Duty Period, the following Scheduled Reporting Times and Scheduled Finishing Times will be used.

SCHEDULED REPORTING TIMES

a. For Flight Duty, the report place and time are as stated in the Operations manual.

b. For Positioning, STD minus 30 minutes for company flights at Hong Kong, 60 minutes for company flights at Outports and 90 minutes for all non company flights.

c. For other duties, the time at which the crew member is Scheduled to report for duty.

d. If the time between arrival at the airport terminal and arrival at the reporting place, or vice versa, is repetitively delayed due to airport procedures (e.g. immigration, customs and security), this must be brought to the attention of the Company and actioned accordingly.

e. If the Company requires the Cabin Crew to report earlier than the Flight Crew, then the difference between the Reporting Times will be limited to 20 minutes. In this event the “Local Time of Start” used to determine the Cabin Crew FDP from Table C will be that of the Flight Crew, and the Duty Period used to determine subsequent Rest requirements will be based on the Flight Crew Reporting Time. The Cabin Crew’s additional reporting time will be included in the Cabin Crew’s overall total of Duty hours.

SCHEDULED FINISHING TIMES

a. For Flight Duty, termination of the FDP will be Scheduled Time of Arrival (“STA”) of the final Sector of the FDP. Where no other subsequent duty is to be undertaken, termination of the Duty Period and commencement of the Rest Period will be STA plus 30 minutes.

b. For Positioning, where no other subsequent duty is to be undertaken, termination of the Duty Period and commencement of the Rest Period will be STA plus 30 minutes.

c. For Other Duties, termination of the Duty Period and commencement of the Rest Period will be the time at which the duty is Scheduled to end.

7.1.8.2 For the purpose of calculating the actual FDP or Duty Period, the following Actual Reporting Times and Actual Finishing Times will apply.

ACTUAL REPORTING TIMES

For all duties, the Scheduled Reporting Time or the time at which the crew member actually reports for duty, whichever is the later.

ACTUAL FINISHING TIMES

a. For Flight Duty, termination of the FDP will be as specified in 7.1.7.11. When no other duty is subsequently undertaken, termination of the Duty Period and commencement of the Rest Period will be ATA on blocks plus 30 minutes, or such later time as may be required by other than normal post flight duties.

b. For Positioning, when no other duty is subsequently undertaken, termination of the Duty Period and commencement of the Rest Period will be ATA on blocks plus 30

minutes, or such later time as may be required by other than normal post flight duties.

c. For other duties, termination of the Duty Period and commencement of the Rest Period will be the time at which the duty ends.

7.1.8.3 DELAYED REPORTING TIME

When a crew member is informed, before leaving the place of Rest, of a delay to the Reporting Time, the FDP will be calculated as follows:

a. When the delay is less than 4 hours the maximum allowable FDP will be determined by the more limiting time band of the original Scheduled Reporting Time and the Actual Reporting Time. The FDP will start at the Actual Reporting Time.

b. When the delay is 4 hours or more, the maximum allowable FDP will be based on the Actual Reporting Time. The FDP will start at the Actual Reporting Time.

c. In the event of a second or any subsequent delays, the maximum FDP and FDP start time, will be those determined under 7.1.8.3a or 7.1.8.3b for the originally notified delay.

7.1.8.4 RESCHEDULED REPORTING TIME

When the Company informs a crew member, before leaving the place of Rest, of a Rescheduled Reporting Time of 10 hours or more ahead, and the crew member is not further disturbed by the Company until a mutually agreed time, then that elapsed time is classed as a Rest Period. If, upon the resumption of duty, further delays occur, then the provisions of 7.1.8.3 will be applied to the Rescheduled Reporting Time.

7.1.9 TRAVELLING TIME

7.1.9.1 Travelling Time, other than that time spent on Positioning, will not be counted as Duty.

7.1.9.2 When crew members are required to travel from their home to an airport other than the normal departure airport, any Travelling Time over and above the normal Travelling Time from home to the normal departure airport will be classed as Positioning.

7.1.10 SECTOR TIMES

7.1.10.1 The Sector Times used by the Company in the application of this scheme must reflect actual Sector Times achievable in operation. The Company will maintain records of the number of occasions on which excess Sector Times cause the use of Commander's Discretion, and forward the CDRs involved to CAD. These records will be reviewed monthly and used to adjust, where necessary, the crew rostering requirements.

7.1.10.2 If 15 percent or more flights on any Sector over a two month period have actual Sector Times which cause the use of Commander's Discretion, then the Sector Times used will be adjusted to bring the exceedances within the 15 percent limit.

7.1.10.3 If 15 percent or more of the same FDPs, for the same Sectors, over a two month period cause the use of Commander's Discretion by more than 15 minutes then these FDPs will be adjusted accordingly.

7.1.11 FLIGHT CREW IN-FLIGHT RELIEF FACILITIES

This Section does not apply to Cabin Crew.

7.1.11.1 When the Standard FDP is extended by the use of In-Flight Relief a comfortable reclining seat, separated and screened from the passengers and flight deck, will be provided for the Flight Crew member(s) not at the controls. When seating arrangements in the cabin ensure that the seat provided for the relieved Flight Crew member is not immediately adjacent to a seat occupied by a passenger, there will be

no requirement for screening.

7.1.11.2 All references in this Scheme to In-Flight Relief Facilities will be taken to mean the provision of facilities in accordance with this Section.

7.1.12 "LEGSTRETCH" FACILITIES

This Section does not apply to Cabin Crew.

7.1.12.1 When an additional Flight Crew member is boarded in accordance with 7.1.13.1a, 7.1.13.1b, 7.1.13.2a, 7.1.13.2b or 7.1.13.2c, a comfortable reclining seat separated from the flight deck, will be provided for the Flight Crew member not at the controls.

7.1.12.2 All references in this Scheme to "Legstretch" Facilities will be taken to mean the provision of facilities in accordance with this Section.

7.1.13 STANDARD FDP

This Section does not apply to Cabin Crew, see 7.1.24.

7.1.13.1 The maximum allowable Standard FDP for Acclimatised Flight Crew will be as specified in Table "A".

Table "A" - Standard FDP for Acclimatised Flight Crew

Local Time of Start of FDP	Number of Sectors							
	1	2	3	4	5	6	7	8 or more
0700 – 0759	13	12¼	11½	10¾	10	9¼	9	9
0800 – 1259	14	13¼	12½	11¾	11	10¼	9½	9
1300 – 1759	13	12¼	11½	10¾	10	9¼	9	9
1800 – 2159	12	11¼	10½	9¾	9	9	9	9
2200 – 0659	11	10¼	9½	9	9	9	9	9

If the Scheduled FDP for a Two Crew Aircraft includes:

a. A Scheduled Sector Time in excess of 9 hours; or

b. Two or more Scheduled Sectors with a combined Scheduled Sector Time in excess of 8½ hours and one of the Scheduled Sectors encroaches on the period 0200–0559 hours Local Time at the place where the FDP commences; then one additional Flight Crew member must be boarded and "Legstretch" Facilities provided.

7.1.13.2 The maximum allowable Standard FDP for Unacclimatised Flight Crew will be as specified in Table "B".

Table "B" - Standard FDP for Unacclimatised Flight Crew

Length of Preceding Rest Period in Hours	**Number of Sectors**						
	1	2	3	4	5	6	7 or more
Up to 18	13	12¼	11½	10¾	10	9¼	9
18 – 30	11½	11	10½	9¾	9	9	9
Over 30	13	12¼	11½	10¾	10	9¼	9

If the Scheduled FDP for a Two Crew Aircraft includes:

a. A Scheduled Sector Time in excess of 9 hours, and the FDP starts less than 9 hours from the end of the preceding Sleep Opportunity within the period 2200-0800 home base time or

b. A Scheduled Sector Time in excess of 8½ hours, and the FDP starts 9 hours from the end of the preceding Sleep Opportunity within the period 2200-0800 home base time or

c. Two or more Scheduled Sectors with a combined Scheduled Sector Time in excess of 8½ hours and the Scheduled FDP starts 9 hours or more from the end of the preceding Sleep Opportunity within the period 2200-0800 home base time.

Then one additional Flight Crew member must be boarded and "Legstretch" Facilities provided.

7.1.13.3 EXTENSION OF FDP BY SPLIT DUTY

a. When a FDP consists of two or more Sectors, and the Sectors are separated by a period of Rest that is less than a minimum Rest Period, then the Standard FDP may be extended by a period equal to half of the period of Rest taken, provided that:

i. The period of Rest is not less than three hours; and

ii. The portion of the FDP either side of the period of Rest must not exceed 10 hours; and

iii. The maximum allowable FDP using the provision of Split Duty will be 18 hours.

b. Split Duty may not be used to extend a Standard FDP that already has been extended by the use of In-Flight Relief.

c. The period of Rest will neither include the time required for intervening post-flight and pre-flight duties nor include Travelling Time.

d. When the period of Rest is six hours or less, it will suffice if a quiet and comfortable place, not open to the public, is available. If the period of Rest is more than six hours , or covers three hours or more during the period 2200 – 0800 Local Time at the place where it occurs, then Suitable Accommodation must be provided. Where security considerations make this latter requirement inadvisable, the requirement for the provision of Suitable Accommodation may be waived.

e. Only under the following circumstances may a period of Rest within a Split Duty be taken in an aircraft on the ground:

i. The period of Rest must be 6 hours or less or the requirement for Suitable Accommodation waived in accordance with 7.1.13.3d; and

ii. A comfortable reclining seat or bunk must be available for each resting crew member; and

iii. There must be no passengers on board; and

iv. There must be no cargo loaded or unloaded during the period of Rest; and

v. Maintenance must not take place within the vicinity of resting crew members; and

vi. The crew must have adequate control of the temperature, lighting and ventilation within the aircraft.

7.1.13.4 EXTENSION OF FDP BY INFLIGHT RELIEF

When the Flight Crew is augmented for the purpose of extending a Standard FDP, and In-Flight Relief Facilities are provided, then the maximum allowable Standard FDP specified in Table A and Table B may be extended in accordance with the following:

a. A total In-Flight Relief of less than three hours does not allow for the extension of a Standard FDP.

b. When the total In-Flight Relief, which needs not be continuous, is three hours or more, then a Flight Crew member's maximum allowable Standard FDP may be extended, when only a seat is available, by a period equal to one third of the total relief; provided that the maximum FDP permissible will be 15 hours.

c. When calculating the period of In-Flight Relief, the maximum period of In-Flight Relief on any flight will not be greater than the actual Sector Time less one hour. Scheduled ground transit time may not be taken into consideration.

d. If, on the day, extended unscheduled ground time occurs (such as a technical delay before departure or in transit) then, subject to the conditions specified in 7.1.13.3e, rest taken on board the aircraft on the ground may count as In-Flight Relief at the appropriate seat or bunk rate, as the case may be.

e. When a Flight Crew member provides a period of In-Flight Relief and, after its completion, is wholly free of all flight duty for the remainder of the flight, then that part of the flight following completion of the flight duty will be classed as Positioning.

f. When the Standard FDP is extended by the use of In-Flight Relief no Flight Crew member will:

i. Spend more than 8 consecutive hours at the controls without being relieved of all flight duty for at least one hour; and/or

ii. Spend more than a total of 10 hours at the controls.

For the purposes of the above, "at the controls" includes brief absences from the controls for physiological and/or duty reasons.

7.1.14 LATE FINISHES & EARLY STARTS

This Section does not apply to Cabin Crew.

7.1.14.1 These provisions apply:

a. To Acclimatised Flight Crew only.

b. When a Duty Cycle contains an FDP which is preceded by one or more Duty Periods any part of which falls within the LNP.

7.1.14.2 The provisions do not apply:

a. If all the duties within the Duty Cycle are ground duties, or to ground Duties following FDP(s) where the ground Duties end the Duty Cycle.

b. To Reserve Duties undertaken in Suitable Accommodation.

c. To FDPs which are delayed into the LNP by service disruption.

7.1.14.3 Except under the provisions of 7.1.14.7. Duties will not be undertaken on more than three consecutive LNPs, nor may there be more than four such Duties on any six

consecutive LNPs.

7.1.14.4 When a Flight Crew member is Scheduled for Duty Periods which encroach upon consecutive LNPs, and those Duty Periods include Scheduled FDPs which encroach upon consecutive LNPs, the Rest Period immediately preceding the first of such Duty Periods must include a Sleep Opportunity.

7.1.14.5 Duties occur on either three consecutive LNPs, or on four LNPs within six consecutive LNPs, then the subsequent period free of duty must be of at least 48 hours' duration and include two Local Nights.

7.1.14.6 When a Flight Crew member is occupying Suitable Accommodation provided by the Company, and the normal Travelling Time from that accommodation to the reporting point does not exceed 15 minutes, then for the purpose of defining the LNP, 0559 may be substituted for 0659.

7.1.14.7 Flight Crew members employed on regular "overnight" duties may, subject to the following conditions, operate a block of FDPs which encroach upon up to five consecutive LNPs:

a. The minimum Rest Period before the start of such a series of Duties will be 36 hours.

b. No FDP will exceed 8 hours, irrespective of the Sectors flown.

c. At the finish of such a series of Duties, crew members must have a minimum of 63 consecutive hours free from all duties.

7.1.15 MIXED DUTIES

7.1.15.1 When a crew member is required to report for Duty in advance of the normal Reporting Time for a flying Duty, to carry out a task at the behest of the Company, then the maximum allowable FDP will be calculated using the Actual Reporting Time and the FDP will start at the Actual Reporting Time.

7.1.15.2 When a Flight Crew member undertakes a Duty in the simulator and then, within the same Duty Period, operates as a Flight Crew member of an aircraft, the maximum allowable FDP will be calculated using the Actual Reporting Time of the simulator duty, the FDP will start at the Actual Reporting Time of the simulator duty, and the simulator duty will count as a Sector.

7.1.16 POSITIONING

7.1.16.1 All time spent Positioning will count as duty but, when calculating the maximum allowable FDP, Positioning will not count as a Sector even if the Positioning precedes Split Duty Rest. When Positioning, the FDP will commence at the Actual Reporting Time.

7.1.16.2 There is no limit to the amount of Positioning that may be undertaken following the completion of a FDP other than compliance with the maximum cumulative duty hours limitations.

7.1.16.3 When Positioning follows a FDP with less than a minimum Rest Period taken between the FDP and Positioning, this will be deemed to be one continuous Duty Period.

7.1.17 RESERVE DUTY

This Section does not apply to Cabin Crew, see 7.1.24

7.1.17.1 The time of start, end and nature of the Reserve Duty will be defined and notified to Flight Crew members by The Company. The Report time from a Reserve callout will include, in addition to the relevant Travelling Time, a minimum of 45 minutes for the flight Crew member to prepare to leave home or the suitable accommodation provided by the company.

7.1.17.2 The maximum duration of any single Reserve Duty will be 12 hours.

7.1.17.3 If a Flight Crew member is called out from Reserve, the Reserve Duty will cease at that time

7.1.17.4 When reserve is undertaken at home, or in suitable accommodation provided by the company, and a Flight Crew member is called out for duty then:

a. If acclimatised, the maximum FDP shall be based on the Local Time of start in Table A and shall start at the Actual Report Time.

b. If unacclimatised the FDP shall be based on the Length of the Preceding Rest (hours) in Table B, which immediately precedes the Reserve duty and shall start at the Actual Report Time.

c. If a Flight Crew member is called out from Reserve for an FDP with a report time after the end of the scheduled Reserve Duty, then the maximum time limit between the start of the scheduled reserve duty and the end of the FDP shall be 23 hours. This limit will not apply when there is a period of 10 hours or more between callout and the Report Time.

7.1.17.5 When a Flight Crew member undertakes a Reserve Duty on immediate readiness at an airport, then the maximum allowable FDP is calculated for the Flight Crew member in accordance with 7.1.17.4a or 7.1.17.4b as appropriate, except the FDP shall be based on the actual start time of the Reserve Duty, and the FDP will commence at the start time of the Reserve Duty.

7.1.17.6 During a period of Reserve Duty, a Flight Crew member may be contacted in order to be notified of a change of future duty, this will not be deemed to be a callout from Reserve.

7.1.17.7 The method of adding time spent on Reserve Duty to cumulative totals is specified in 7.1.20.3.

7.1.18 REST PERIODS

This Section does not apply to Cabin Crew, see 7.1.24

7.1.18.1 GENERAL

The Company will notify Flight Crew members in good time of their FDPs so that sufficient and uninterrupted pre-flight rest can be obtained. When away from Home Base the Company will provide Flight Crew members with Suitable Accommodation. When flights are carried out at such short notice that it is impracticable for the Company to arrange Suitable Accommodation, then this responsibility devolves to the aircraft Commander.

Flight Crew members who inform the Company that they are having difficulty in achieving adequate pre-flight rest will be given the opportunity to consult an aviation medical specialist.

The following restrictions will apply to the scheduling of Rest Periods that occur whilst a Flight Crew member is Unacclimatised:

a. No more than three consecutive Rest Periods of a duration between 18 and 30 hours, that occur immediately prior to a FDP, will be Scheduled; and

b. No more than a total of four such Rest Periods will be Scheduled in any period of 14 consecutive days; and

c. If three such Rest periods are Scheduled consecutively, or a total of four such Rest Periods are Scheduled in any period of 14 consecutive days, then the next period free of all duty in the same period of 14 consecutive days will be of at least 34 consecutive hours' duration.

7.1.18.2 MINIMUM REST

When the Local Time difference between the places where the preceding Duty Period started and finished is less than 6 hours, the Minimum Rest Period which must be

provided following the end of that Duty Period and the commencement of the next FDP will be:

a. At least as long as the preceding Duty Period, or

b. 12 hours

whichever is the greater.

In the case when the Minimum Rest Period is 12 hours, and Suitable Accommodation is provided by the Company, then that Minimum Rest Period may be 11 hours. In such circumstances, if the Travelling Time is more than 30 minutes each way, then the Minimum Rest Period must be increased by the amount the total Travelling Time exceeds one hour. The room allocated to the Flight Crew member must be available for his occupation for a minimum of 10 hours. This note does not apply to Minimum Rest Periods that exceed 12 hours.

If the preceding Duty Period exceeded 18 hours, then the Rest Period must include a Local Night.

7.1.18.3 REST PERIODS SUBSEQUENT TO RESERVE DUTY

Minimum Rest Periods required after a period of Reserve Duty during which a Flight Crew member is called out for Duty will be as specified in 7.1.18.2 provided that

a. When Reserve Duty is undertaken on immediate readiness at an airport, and a Flight Crew member is called out for Duty then the Rest Period immediately following that Duty will be at least as long as that Duty Period plus the time spent on Reserve

b. When Reserve Duty is undertaken other than on immediate readiness at an airport then

i. If the Duty for which the Flight Crew member is called out starts within the Reserve Duty, or starts 10 or more hours after the time of notification, then the Rest Period immediately following that Duty will be at least as long as that Duty Period for which the Flight Crew member is called.

ii. If the Duty for which the Flight Crew member is called out starts after the finishing time of the Reserve Duty, and less than 10 hours after the time of notification, then the Rest Period immediately following that Duty will be at least as long as that Duty Period for which the Flight Crew member is called plus half the time spent on Reserve Duty, excluding any period of the Reserve Duty occurring between 2200 and 0800 Local Time.

7.1.19 FLYING HOUR LIMITATIONS

This Section does not apply to Cabin Crew.

7.1.19.1 For the purposes of this Section, all days and times will be calculated on Flight Crew members' Home Base Local Time.

7.1.19.2 A Flight Crew member will not act as Flight Crew of an aircraft if at the beginning of the flight:

a. The total of all previous Sector Times during the period of 28 consecutive days expiring at the end of the day on which the flight begins exceeds 100 hours; or

b. The total of all previous Sector Times during the period of 12 calendar months, expiring at the end of the previous month, exceeds 900 hours.

7.1.20 DUTY HOUR LIMITATIONS

This Section does not apply to Cabin Crew, see 7.1.24.

7.1.20.1 For the purposes of this Section, all times will be calculated on Flight Crew members' Home Base Local Time.

7.1.20.2 The maximum cumulative Duty Hour totals for Flight Crew members will not exceed:

a. 55 hours in any period of 7 consecutive days, but may be increased to 60 hours in the event of Unforeseen Circumstances; and

b. In addition the 7 day, 55 and 60 hour limits may be further exceeded by a maximum of 10 hours, provided that this 10 hour exceedance is used solely for the purpose of Positioning a Flight Crew member back to his Home Base prior to commencing DDOs; and

c. 95 hours in any period of 14 consecutive days; and

d. 190 hours in any period of 28 consecutive days.

7.1.20.3 Cumulative Duty Hour totals will be calculated in accordance with the following:

a. To count in full: Duties except those specified in 7.1.20.3b.

b. To count as half the time on duty: Reserve Duty during the period 2200 to 0800 hours at home or in suitable accommodation provided by the company, and the crew member is not called out for duty.

7.1.20.4 When a Flight Crew member does not undertake either Reserve Duty or flying duties for a period of 28 or more consecutive days, then any duty hours worked need not be added to cumulative totals. Before allocating a flying duty to a Flight Crew member, the Company must be satisfied that the Flight Crew member is in compliance with the provisions of this Scheme.

7.1.21 DOMESTIC DAYS OFF (DDO)

This Section does not apply to Cabin Crew, see 7.1.24.

Flight Crew members:

7.1.21.1 Will not be Rostered for duties on more than 6 consecutive days before being given a DDO or EXB. However, subject to the agreement of the Flight Crew member, this may be extended to 7 consecutive days; and

7.1.21.2 Notwithstanding the above, on occasion may be Positioned to their Home Base on the 7th consecutive day (8th consecutive day if the duty is extended to 7 days), provided they are then allocated at least two consecutive DDOs; and

7.1.21.3 Will have a minimum of two consecutive DDOs in any period of 14 consecutive days following the previous two consecutive DDOs; and

7.1.21.4 Will have a minimum of 7 DDOs in any consecutive 28 days; and

7.1.21.5 Will have an average of at least 8 DDOs in each consecutive 28 day period averaged over three such periods.

7.1.22 COURSES OF INSTRUCTION & GROUND DUTIES

7.1.22.1 The provisions of this Scheme with respect to Domestic Days Off and Recovery Periods may be varied without reference to CAD to the extent necessary to facilitate crew members in attending extended ground courses, or undertaking other duties, away from Home Base.

7.1.22.2 After completion of courses of instruction or ground duties, and before allocating a flying duty to a crew member, the Company must be satisfied that the crew member is in compliance with this Scheme. In some cases this may require the allocation of a Recovery Period before flying duties may be undertaken.

7.1.23 RECORDS TO BE MAINTAINED

This Section does not apply to Cabin Crew, see 7.1.24.

7.1.23.1 Records for the Duty and Rest Periods of all crew members must be kept. These records will include:

a. For each Flight Crew member

i. The beginning, end and duration of each Duty Period or Flight Duty Period, and function performed during the period, duration of each Rest Period prior to a flight Duty or Reserve Duty period, dates of days off and cumulative totals of Duty.

ii. Daily, rolling 28 day and rolling 12 month totals of flying hours.

7.1.23.2 Records will be preserved for at least 12 calendar months from the date of the last relevant entry.

7.1.23.3 The Company will retain all Commanders Discretion Reports of extended FDPs and reduced Rest Periods for a period of at least 12 months after the event.

7.1.24 CABIN CREW

7.1.24.1 GENERAL

The provisions set out in this scheme apply to all Cabin Crew employed as crew members and not only to those Cabin Crew carried to meet the requirements of the Air Navigation (Hong Kong) Order.

7.1.24.2 STANDARD FDP

The maximum allowable Standard FDP for Acclimatised Cabin Crew will be as specified in Table "C".

Table "C" - Standard FDP for Acclimatised Cabin Crew

Local Time of Start of FDP	Number of Sectors							
	1	2	3	4	5	6	7	8 or more
0700 – 0759	13	12¼	11½	10¾	10	9¼	9	9
0800 – 1259	14	13¼	12½	11¾	11	10¼	9½	9
1300 – 1759	13	12¼	11½	10¾	10	9¼	9	9
1800 – 2159	12	11¼	10½	9¾	9	9	9	9
2200 – 0659	11	10¼	9½	9	9	9	9	9

The maximum allowable Standard FDP for Unacclimatised Cabin Crew will be as specified in Table "D".

Table "D" - Standard FDP for Unacclimatised Cabin Crew

Length of Preceding Rest Period in Hours	Number of Sectors						
	1	2	3	4	5	6	7 or more
Up to 18	13	12¼	11½	10¾	10	9¼	9
18 – 30	11½	11	10½	9¾	9	9	9
Over 30	13	12¼	11½	10¾	10	9¼	9

7.1.24.3 EXTENSION OF FDP BY SPLIT DUTY

When a FDP consists of two or more Sectors, and the Sectors are separated by a period of Rest that is less than a minimum Rest Period, then the Standard FDP may be extended by a period equal to half of the period of Rest taken, provided that:

a. The period of Rest is not less than three hours; and

b. The portion of the FDP either side of the period of Rest must not exceed 10 hours; and

c. The maximum allowable FDP using the provision of Split Duty will be 18 hours.

Split Duty may not be used to extend an FDP that already has been extended by the use of In-Flight Rest.

The period of Rest will neither include the time required for intervening post-flight and pre-flight duties nor include Travelling Time.

When the period of Rest is 6 hours or less, it will suffice if a quiet and comfortable place, not open to the public, is available. If the period of Rest is more than six hours, or covers three hours or more during the period 2200 – 0800 Local Time at the place where it occurs, then Suitable Accommodation must be provided. Where security considerations make this latter requirement inadvisable, the requirement for the provision of Suitable Accommodation may be waived.

Only under the following circumstances may a period of Rest within a Split Duty be taken in an aircraft on the ground:

a. The period of Rest must be 6 hours or less or the requirement for Suitable Accommodation waived in accordance with the above security considerations; and

b. A comfortable reclining seat or bunk must be available for each resting crew member; and

c. There must be no passengers on board; and

d. There must be no cargo loaded or unloaded during the period of Rest; and

e. Maintenance must not take place within the vicinity of resting crew members; and

f. The crew must have adequate control of the temperature, lighting and ventilation within the aircraft.

7.1.24.4 EXTENSION OF FDP BY INFLIGHT REST TAKEN IN A SEAT

When Inflight rest is provided for Cabin Crew and rest is taken in a seat, the FDPs set out in Tables C and D may be extended provided that the total Inflight Rest, which need not be continuous, is three hours or more. The period of extension will be equal to one third of the total Inflight Rest provided that the maximum FDP permissible will be 15 hours.

Scheduled ground transit time may not be taken into consideration. However if, on the day, extended unscheduled ground time occurs (such as a technical delay before departure or in transit) then, subject to the conditions specified in 7.1.24.3 a to f, rest taken on board the aircraft on the ground may count as Inflight Rest.

When, after performing duty on a flight, a Cabin Crew member is wholly free of all flight duty for the remainder of that flight, then that part of the flight following completion of the flight duty will be classed as Positioning.

7.1.24.5 RESERVE DUTY

The time of start, end and nature of the Reserve Duty will be defined and notified to Cabin Crew members by The Company. The Report time from a Reserve callout will include in addition to the relevant Travelling Time, a minimum of 45 minutes for the Cabin Crew member to prepare to leave home or the suitable accommodation provided by the company.

The maximum duration of any single Reserve Duty will be 12 hours.

If a Cabin Crew member is called out from Reserve, the Reserve Duty will cease at that time

When reserve is undertaken at home, or in suitable accommodation provided by the company, and a Cabin Crew member is called out for duty then:

a. If acclimatised, the maximum FDP shall be based on the Local Time of start in Table A and shall start at the Actual Report Time

b. If unacclimatised the FDP shall be based on the Length of the Preceding Rest (hours) in Table B, which immediately precedes the Reserve duty and shall start at the Actual Report Time.

c. If a Cabin Crew member is called out from Reserve for an FDP with a report time after the end of the scheduled Reserve Duty, then the maximum time limit between the start of the scheduled reserve duty and the end of the FDP shall be 23 hours. This limit will not apply when there is a period of 10 hours or more between callout and the Report Time.

When a Cabin Crew member undertakes a Reserve Duty on immediate readiness at an airport, then the maximum allowable FDP is calculated for the Cabin Crew member in accordance with 7.1.24.5a or 7.1.24.5b as appropriate, except the FDP shall be based on the actual start time of the Reserve Duty, and the FDP will commence at the start time of the Reserve Duty.

During a period of Reserve Duty, a Cabin Crew member may be contacted in order to be notified of a change of future duty, this will not be deemed to be a callout from Reserve.

7.1.24.6 REST PERIODS

a. General

i. The Company will notify Cabin Crew members in good time of their FDPs so that sufficient and uninterrupted pre-flight rest can be obtained. When away from Home Base the Company will provide Cabin Crew members with Suitable Accommodation. When flights are carried out at such short notice that it is impracticable for the Company to arrange Suitable Accommodation, then this responsibility devolves to the aircraft Commander.

ii. Cabin Crew members who inform the Company that they are having difficulty in achieving adequate pre-flight Rest will be given the opportunity to consult an aviation medical specialist.

b. Minimum rest

When the Local Time difference between the places where the preceding Duty Period started and finished is less than 6 hours, the Minimum Rest Period which must be provided following the end of that Duty Period and the commencement of the next FDP will be:

i. At least as long as the preceding Duty Period, or

ii. 12 hours

whichever is the greater.

In the case when the Minimum Rest Period is 12 hours, and Suitable Accommodation is provided by the Company, then that Minimum Rest Period may be 11 hours. In such circumstances, if the Travelling Time is more than 30 minutes each way, then the Minimum Rest Period must be increased by the amount the total Travelling Time exceeds one hour. The room allocated to the Cabin Crew member must be available for his occupation for a minimum of 10 hours. This note does not apply to Minimum Rest Periods that exceed 12 hours.

iii. If the preceding Duty Period exceeded 18 hours, then the Rest Period must include a Local Night

c. Rest Periods Subsequent to Reserve Duty

Minimum Rest Periods required after a period of Reserve Duty during which a Cabin Crew member is called out for Duty will be those specified in 7.1.24.6b provided that

i. When Reserve Duty is undertaken on immediate readiness at an airport, and a Cabin Crew member is called out for Duty then the Rest Period immediately following that Duty will be at least as long as that Duty Period plus the time spent on Reserve

ii. When Reserve Duty is undertaken other than on immediate readiness at an airport then

- If the Duty for which the Cabin Crew member is called out starts within the Reserve Duty, or starts 10 or more hours after the time of notification, then the Rest Period immediately following that Duty will be at least as long as that Duty Period for which the Cabin Crew member is called.
- If the Duty for which the Cabin Crew member is called out starts after the finishing time of the Reserve Duty, and less than 10 hours after the time of notification, then the Rest Period immediately following that Duty will be at least as long as that Duty Period for which the Cabin Crew member is called plus half the time spent on Reserve Duty, excluding any period of the Reserve Duty occurring between 2200 and 0800 Local Time.

7.1.24.7 DUTY HOUR LIMITATIONS

For the purposes of this Section, all times will be calculated on Cabin Crew members' Home Base Local Time.

The maximum Duty Hours for Cabin Crew, will not exceed:

a. 60 hours in any consecutive 7 days, but may be increased to 65 hours, in the event of Unforeseen Circumstances.

b. 105 hours in any period of 14 consecutive days.

c. 210 hours in any period of 28 consecutive days.

Cumulative Duty Hour totals will be calculated in accordance with the following:

a. To count in full: Duties except those specified in b. below.

b. To count as half the time on duty: Reserve Duty undertaken during the period 2200 to 0800 hours at home, or in suitable accommodation provided by the company, and the cabin crew member can take undisturbed rest and is not called out for duty.

When a Cabin Crew member is not Scheduled for either Reserve or flying Duties for 28 or more consecutive days then any duty hours worked within that period need not be added to cumulative totals. Before allocating a flying duty to a Cabin Crew member, the Company must be satisfied that the Cabin Crew member is in compliance with this Scheme.

7.1.24.8 DAYS OFF

In the context of Cabin Crew "Days Off" means periods free of all Duties available for leisure and relaxation. A single Day Off will comprise a minimum period of 34 consecutive hours and will include two Local Nights. Consecutive Days Off will include a further Local Night for each additional consecutive Day Off. A Rest Period may form part of a Day Off.

Cabin Crew:

- Will not be scheduled for Duty on more than 6 consecutive days between Days Off,
- May be Positioned to their Home Base on the 7th day provided they are then allocated at least two consecutive Days Off,
- Will have two consecutive Days Off in any 14 consecutive days following the previous two consecutive Days Off, and
- Will have a minimum of 7 Days Off in any 28 consecutive days, and
- Will have an average of at least 8 Days Off in each consecutive period of 28 days period, averaged over three such periods.

7.1.24.9 RECORDS TO BE MAINTAINED

Records for the Duty and Rest Periods of all Cabin Crew members must be kept. These records will include:

a. For each Cabin Crew member, the beginning, end and duration of each Duty Period or Flight Duty Period, and function performed during the period, duration of each Rest Period prior to a flight Duty or Reserve Duty period, dates of days off and cumulative totals of Duty.

b. Records will be preserved for at least 12 calendar months from the date of the last relevant entry.

7.2 EXCEEDANCES OF FLIGHT AND DUTY TIME AND/OR REDUCTIONS OF REST PERIODS

7.2.1 COMMANDER'S DISCRETION - EXTENSION OF FDP

7.2.1.1 The provisions of this Section are not intended for use in regular practice, cannot be Scheduled and will apply only in the event of Service Disruption

7.2.1.2 In the case of Service Disruption, the aircraft Commander may decide, or the Company may request the aircraft Commander, to implement the provisions of this Section in order to extend a FDP beyond the maximum allowable FDP normally permitted. However, no Company official has the authority to instruct a Commander to exercise Commander's Discretion.

7.2.1.3 Requests made must be reasonable in the light of the prevailing circumstances and may only be initiated by General Manager Operations, Assistant General Manager Flying, Assistant General Manager Operations, the Duty Operations Manager or the Duty Manager Integrated Operations Centre.

7.2.1.4 After receiving a request, the aircraft Commander, taking into consideration all relevant factors, including the circumstances of the other crew members, including Cabin Crew members, and the over-riding consideration of safety, will inform the Company of his decision. The aircraft Commander may decline the request and also may elect to work less than the full extent of the provisions of 7.2.1.5 or 7.2.1.6. The Commander's decision in such matters will be final and unquestioned.

7.2.1.5 The maximum FDP permitted using Commander's Discretion will be calculated by adding three hours to the maximum allowable Standard FDP. In the event that the Standard FDP has already been extended by the use of either In-Flight Relief or Split Duty then the maximum that can be added is two hours. These three and two hour extensions may only be exceeded in an emergency. In this respect, an emergency is a situation which, in the judgement of the aircraft Commander, presents a serious risk to the health and/or safety of crew and/or passengers, or endangers the lives of others.

7.2.1.6 The decision to use Commander's Discretion to extend a FDP following a Rest Period that was reduced by the use of Commander's Discretion will be made only in exceptional circumstances. In such circumstances, the maximum FDP permitted using Commander's Discretion will be calculated by adding two hours to the normal maximum allowable Standard or Extended FDP.

7.2.1.7 Where an aircraft Commander decides to use Commander's Discretion in accordance with this Section, he must complete a Commander's Discretion Report ("CDR") giving reasons for his decision. If the extension is 30 minutes or less then details and reasons for the extension are to be recorded on the Commanders Administration Report (CAR) in place of a CDR. If the extension of a FDP either exceeds two hours or follows upon a reduced Rest Period, then the Company will submit the CDR to the Civil Aviation Department within seven days of the aircraft's return to Hong Kong.

7.2.1.8 Where the Company requests an aircraft Commander to implement the provisions of this Section, the Company will maintain a written record showing the Company's reason for the request and the aircraft Commander's decision.

7.2.1.9 The Company will preserve for a period of 12 months all CDRs and records of requests made.

7.2.1.10 CDRs should be completed in pen and forwarded to the Aircrew Management department as soon as possible, either via the Flight Envelope or direct to the department.

7.2.1.11 COMMANDER'S DISCRETION REPORT – EXTENSION OF FLYING DUTY PERIOD (COPY OF FORM)

DRAGONAIR

COMMANDER'S DISCRETION REPORT – EXTENSION OF FLYING DUTY PERIOD/FLYING HOURS

PART A Operator _____ Aircraft Type_____

Flight Number _____ Commander _____

Date _____

NOTE: If discretion exercised for part crew or individuals state name(s) and operating capacity below.

Crew affected :_____

PART B Voyage Details

1. Crew acclimatised YES/NO
2. (If relevant) Length of preceding rest 18 to 30 hrs/ under 18 or over 30 hrs
3. Split duty: actual time off .....time on .....
4. Allowance claimed for in-flight relief YES/NO

Voyage Details

Schedule (Planned)				Actual		
	Place	UTC	Local		UTC	Local
Duty to start				Duty started		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
FDP to end				End of FDP		
Planned FDP				Actual FDP		
				Allowable FDP		

Form No. D101A 3/91

DRAGONAIR

COMMANDER'S DISCRETION REPORT – EXTENSION OF FLYING DUTY PERIOD/FLYING HOURS

Part C Commander's Report

Signed _____

Date _____

Operator's Remarks/Action Taken

Signed _____

Date _____

Forwarded to CAD / Filed

7.2.2 COMMANDER'S DISCRETION - REDUCTION OF REST PERIOD

7.2.2.1 The provisions of this Section are not intended for use in regular practice, cannot be Scheduled and will apply only in the event of Unforeseen Circumstances.

7.2.2.2 In the event of Unforeseen Circumstances, the aircraft Commander may decide, or the Company may request the aircraft Commander, to implement the provisions of this Section in order to reduce a Rest Period below the normal Minimum Required Rest Period. However, no Company official has the authority to instruct a Commander to exercise Commander's Discretion.

7.2.2.3 After taking into consideration all relevant factors, including the circumstances of the other crew members, including cabin crew members, and the over-riding consideration of safety, an aircraft Commander may, at his discretion, reduce a Rest Period. The aircraft Commander may decline the request, may exercise his discretion for the whole crew, or for individual crew members, and also may elect to reduce a Rest Period less than the full extent of the provisions of 7.2.2.4. The Commander's decision in such matters will be final and unquestioned.

7.2.2.4 A Rest Period may be reduced by the use of Commander's Discretion to below the normal Minimum Required Rest Period but only insofar as the room allocated to the crew member must be available for his occupation for a minimum of ten hours.

7.2.2.5 The exercise of Commander's Discretion in accordance with this Section will be considered exceptional, and cannot be used to reduce successive Rest Periods.

7.2.2.6 A rest period following a FDP that was extended by the use of Commander's Discretion may be reduced, but only provided that the subsequent maximum allowable FDP is also reduced by the same amount by which the Rest Period is reduced.

7.2.2.7 Where an aircraft Commander decides to use Commander's Discretion for reduction of a Rest Period, he must complete a CDR giving reasons for his decision. If the reduction is more than one hour then the Company will submit the CDR to the Civil Aviation Department within seven days of the aircraft's return to Hong Kong.

7.2.2.8 Where the Company requests an aircraft Commander to implement the provisions of this Section, the Company will maintain a written record showing the Company's reason for the request and the aircraft Commander's decision.

7.2.2.9 The Company will preserve for a period of 12 months all CDRs and records of requests made.

7.2.2.10 CDRs should be completed in pen and forwarded to the Aircrew Management department as soon as possible, either via the Flight Envelope or direct to the department.

7.2.2.11 COMMANDER'S DISCRETION REPORT – REDUCTION OF REST (COPY OF FORM)

DRAGONAIR

COMMANDER'S DISCRETION REPORT – REDUCTION OF REST

NOTE: All times to be recorded as date/time six-figure groups, expressed in both UTC and Local time.

PART A Operator _____ Aircraft Type_____
Flight Number _____ Commander _____
Date _____
NOTE: If discretion exercised for part crew or individuals state name(s) and operating capacity below.

PART B

	Place	UTC	Local	Hours
Last duty started				
Last duty ended				
Rest earned				
Calculated earliest next available				
Actual start of next FDP				
Rest period reduced by				

Crew affected :

Part C Commander's Report

Signed _____
Date _____

Operator's Remarks/Action

Signed _____
Date _____
Forwarded to CAD
Filed

Form No. D101B 3/91 Reverse side blank

INTENTIONALLY BLANK

7.3 INDEX

TABLE OF CONTENT

8 OPERATING PROCEDURES

8.1 FLIGHT PREPARATION

8.1.1 MINIMUM ALTITUDES

8.1.1.1 MINIMUM ALTITUDE REQUIREMENTS

GENERAL

Except when taking-off and landing, Dragonair aircraft must maintain a separation of 1000 ft from obstacles or terrain up to 5,000ft AMSL, and 2,000ft from obstacles or terrain higher than 5,000ft AMSL.

In airspace where track is well defined by two separate navaids, separation must be maintained from obstacles and terrain within 10nm either side of track and 10nm beyond reporting or checkpoints.

Elsewhere separation must be maintained from obstacles and terrain within 20nm either side of track and 20nm beyond reporting or checkpoints.

ROUTE BRIEFINGS

On routes with high terrain or special procedures, Line Operations will provide crews with a Route Briefing. Crews are required to review such briefings before commencing operations on these sectors. Crews are also required to review the appropriate Enroute Diversion Guides for nominated en-route alternates.

EXTRACTION OF SAFE ALTITUDE FROM JEPPESEN CHARTS

Safe Altitude applicable to any portion of the flight is to be extracted from Jeppesen EnRoute and approach charts as follows:

a. When flying along a published route or track, MOCA, which is annotated on the chart with the letter “T”, and which provides terrain and obstacle clearance within the width of the airway, may be used.

b. When only an MEA is published for a route, it may be used.

c. When flying off route, Grid MORA, which provides clearance within the area defined by latitude and longitude lines, may be used.

d. When using Jeppesen charts to derive MOCA, MEA or Grid MORA it is vitally important that the Commander is at all times satisfied with the accuracy of his navigation in relation to the track being followed.

e. Minimum altitudes depicted on Jeppesen STAR charts may be used.

f. The 25nm MSAs shown on Jeppesen approach charts provide 1,000 ft separation but do not guarantee navaid reception. Nevertheless they can provide useful information in the vicinity of the airfield and are authorised for use during approach to or departure from an airfield provided that:

   i. The navigational beacon on which the MSA is based is tuned, identified and continuous reception is maintained.

   ii. The Commander is satisfied that the aircraft is within 25nm of the specified aid.

   iii. For GPS approaches, the Commander is satisfied that the aircraft is within 25nm of the specified MSA reference point.

g. Lower separation standards are authorised under the following conditions:

   i. When carrying out a published and approved approach procedure.

   ii. When IFR under positive radar control.

iii. When operating on an IFR plan but in VMC and at least 1,000ft on top, or in sight of land or water.

iv. When VFR.

TAA : TERMINAL ARRIVAL ALTITUDE (ICAO) / TERMINAL AREA ARRIVAL (FAA)

The purpose of the TAA is to provide a transition from the enroute airway structure to the terminal environment for arriving aircraft equipped with FMS and/or GNSS navigation equipment. The underlying instrument approach is a RNAV procedure. The TAA will not be found on all RNAV approaches, particularly in areas with high traffic density. When a TAA is published, it replaces the MSA for that approach procedure.

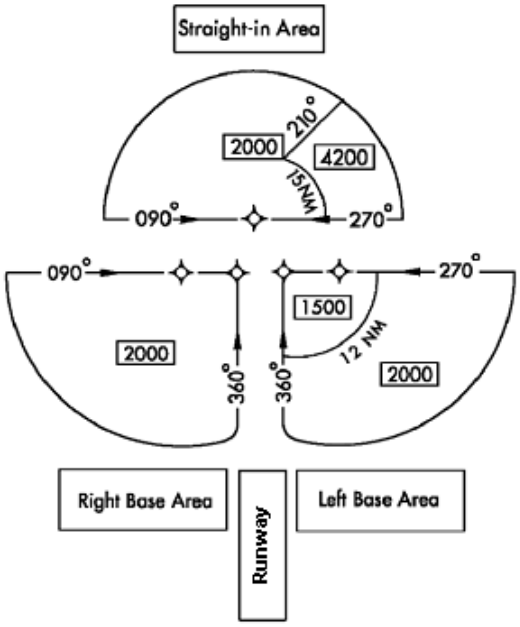
The standard TAA consists of three areas defined by the extension of the Initial Approach Fix (IAF) legs and the Intermediate segment course in a “T” or “Y” shape. These areas are called Straight-in, Left-base and Right-base. TAA lateral boundaries are identified by magnetic courses TO the IF/IAF. Refer to Vol 5 ATC for further information.

Straight-In Area

The area is defined by a semi-circle with a radius of 25nm (ICAO) / 30nm (FAA) centred on and extending outward from the IF/IAF. The altitude shown within the Straight-in area provides minimum IFR obstacle clearance of 300m or 1,000ft.

Base Area

The Left and Right Base areas are bounded by the Straight-In TAA and the extension of the intermediate segment course. The Base areas are defined by a radius of 25nm (ICAO) / 30nm (FAA) centered on the IAF on either side of the common IF/IAF. The altitude shown within the Base area provides minimum IFR obstacle clearance of 300m or 1,000ft.



RADAR CONTROL

When under radar control within 25nm of the departure or arrival airfield, a separation of 1,000ft from obstacles and terrain within 5nm either side of track or intended track must be maintained. At all times when under radar control, the position of the aircraft must be monitored by reference to other aids. Radar control does not relieve a Commander of his responsibility to ensure adequate terrain and obstacle clearance. Crews must be ready to assume responsibility immediately should there be loss of

communication.

ENGINE FAILURE ON TAKE-OFF

Before EACH take off, both pilots must be fully conversant with the Engine Failure Procedure to clear obstructions and ATC instructions must be checked to ensure compliance with terrain clearance requirements.

ENGINE FAILURE OR PRESSURISATION FAILURE EN ROUTE

High ground in some parts of Dragonair's AOC region makes terrain clearance a significant consideration in the event of an en-route engine or pressurisation failure. The strategy adopted by the crew, following an engine failure, will depend on the nature of the surrounding terrain.

If obstacle clearance is a problem, Obstacle Strategy is to be followed, otherwise Standard Strategy is to be used. Both strategies are detailed in FCOM/PER-OEI-GEN-05 Strategy.

Initial stabilising altitude is significantly different depending on the strategy used to descend following an en-route engine failure. At a weight of 64 tonnes, on an ISA + 15 day with engine anti-icing on, the stabilising altitude on one engine would be 21,000 ft using obstacle strategy [170 tonnes – 25,300ft]. Under the same conditions, use of standard strategy would result in a stabilising altitude of 16,300ft. [22,400ft].

Ground distance covered will also vary depending on the strategy used. In the above case, a descent from FL350 using Obstacle strategy would give a still air drift down distance of 380nm [410nm], whereas standard strategy distance to descend from FL350 would be 190nm [166nm] in still air. Variations in start altitude, weight, temperature deviation and wind will also affect both the distance covered in the descent and the stabilising height, as will the use of Engine or Total anti-icing.

On critical sectors it is essential that the crew is aware of these variables, the location of the high ground and turn away from high ground whenever terrain clearance is at all in question.

MCDU Progress page can give useful information regarding distance to en route alternates and Engine Out Maximum Recommended Altitude (EO MAX REC ALT).

As a quick reference, single engine fuel burn and time to an en-route alternate can be obtained from FCOM/PER-OEI-ICQ in Cruise Quick Check At Long Range Speed.

In case of a pressurisation failure, it is vitally important that the crew is aware of and level off from an emergency descent, above the prevailing safe altitude. QNH is to be set on both altimeters.

MOUNTAIN WAVES

Areas of turbulence associated with mountain and lee-waves cannot be forecast with accuracy, but Meteorological Offices can help pilots to assess the probability of occurrence of mountain and lee-waves and assess the height of layers of marked instability. When planning a flight over mountainous terrain, pilots should be be aware of possible turbulence, particularly if "Frontal" conditions are present in the area or a jetstream is expected at altitude. Winds deflected around large single mountain peaks or through valleys of mountain ranges tend to increase speed, which results in a local decrease of pressure. A pressure altimeter within such an airflow is subject to an increase error in altitude indication as a result. This error will be present until the airflow returns to normal speed some distance downwind of the mountain. Careful note should be made of any warnings which may be given in SIGMET broadcasts by the Air Traffic Control network during the course of the flight.

If wave development is forecast or known to be present:

a. Do not attempt to penetrate or approach rotor clouds or likely rotor zones adjacent to mountain ranges.

b. An in-flight clearance of at least 5,000ft is necessary above mountains which are up to 5,000ft in height above the surrounding terrain; for higher mountains the clearance should be at least equal to their height above the terrain; this should enable the worst of the lower altitude hazards to be avoided.

c. Choose cruising altitudes well away from the base of layers of marked instability in the atmosphere where severe turbulence is most likely to occur (present information suggests that there may be more than one unstable layer, a margin of 5,000ft on either side of the tropopause is advisable).

d. When flying in an area in which mountain wave conditions are suspected, always be prepared for turbulence, even in clear air, and take precautions accordingly.

For flights within 20nm of terrain having a maximum elevation exceeding 2,000ft, the safe altitude is to be increased by at least the following increments to counteract wind effect:

Elevation of Terrain	Windspeed in Knots			
	0-30	31-50	51-70	over 70
2,000-8,000ft	500ft	1,000ft	1,500ft	2,000ft
Above 8,000ft	1,000ft	1,500ft	2,000ft	2,500ft

8.1.1.2 MINIMUM ALTITUDE CORRECTIONS

TEMPERATURE CORRECTION

Low Temperature Altimetry

Pressure altimeters are calibrated to indicate true altitude under ISA conditions. Any deviation from ISA will result in an erroneous reading on the altimeter. In cases where the temperature is higher than ISA, the true altitude will be higher than the figure indicated by the altimeter. Conversely, the true altitude will be lower when the temperature is lower than ISA. Obstacle clearances may be significantly reduced at extremely low temperatures.

When temperature at the aerodrome is below the ISA value, it is the responsibility of the Commander to consider the effect of temperature on the minimum and reference altitudes. If corrections are to be made, the guidelines below shall be used.

Corrections to MSA

Corrections to MSA shall be made when the ambient surface temperature is lower than ISA -15°C, using the table below.

TEMPERATURE	CORRECTION
< ISA -15°C	+10%
< ISA -30°C	+20%

Corrections to Altitudes Below MSA

ICAO recommends that, when under radar control, ATC should apply cold weather corrections.

ATC consider that once a clearance has been accepted, it will be complied with. Therefore, if an aircraft is cleared to an altitude which the Commander finds unacceptable due to low temperature, a higher altitude should be requested.

Corrections for DA(H), MDA(H), IF/IAF/FAF altitudes, missed approach altitude, circling minima and glide slope check altitudes, which are at or below MSA, shall be made according to the table below when the reported aerodrome temperature is below 0°C.

Aerodrome Temperature (°C)	Height AAL (ft)													
	200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
0	20	20	30	30	40	40	50	50	60	90	120	170	230	280
-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
-20	30	50	60	70	90	100	120	130	140	210	280	420	570	710
-30	40	60	80	100	120	140	150	170	190	280	380	570	760	950
-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
-50	60	90	120	150	180	210	240	270	300	450	590	890	1190	1500

RNAV/GPS approaches using LNAV/VNAV Decision Altitudes will contain a temperature limitation, below which the DA may not be used. If the actual temperature is below that published, the approach may still be flown but only to the LNAV MDA. This MDA must be corrected using the table above.

For all other non-precision approaches, the use of managed FINAL APP mode is prohibited when cold weather corrections are applied. Selected vertical mode (NAV-FPA or TRK-FPA) must be used

8.1.2 USABILITY OF AERODROMES

8.1.2.1 AIRPORT CATEGORIES

CATEGORY A AIRPORTS

Category A airports are defined as airports to which a crew member may operate unrestricted.

All airports contained in the Jeppesen library which are not categorised B, C or X.

CATEGORY B AIRPORTS

Akita	Izumo	Ningbo
Angeles City (Clark)	Jeju	Okayama
Balikpapan	Jieyang	Penang
Bangalore	Kagoshima	Puerto Princesa
Chiang Mai	Kitakyushu	Sanya
Chiang Rai	Komatsu	Siem Reap
Cochin	Kota Kinabalu	Shonai
Dalian	Kumamoto	Surabaya
Danang	Kunming	Taiyuan
Denpasar	Labuan	Thiruvananthapuram
Fukuoka	Langkawi	Urumqi
Guilin	Lapu Lapu	Vientiane
Guiyang	Macao	Wenzhou
Hakodate	Matsuyama	Xi'an
Hanamaki	Medan	
Harbin	Mumbai	
Hong Kong	Nagoya (RJNA)	
Hyderabad	Nagpur	

Competency must be established and maintained at Category B airports.

CATEGORY C AIRPORTS

Busan	Kathmandu	Matsumoto

CATEGORY X AIRPORTS

Subic Bay

8.1.2.2 USE OF AIRPORT CATEGORY B AND C

CATEGORY B

Category B airports are defined as airports to which a crew member may operate once competency has been established by PE or by one or more of the following:

Simulator Exercise (SIM);

Audio-visual presentation (AV);

Self-briefing (SB)

The validity of Category B airport competency is 13 months. Validity and revalidation

are maintained by LINE OP, PE, AV, SB or SIM. Prior to operating to a Category B airport, the crew member shall sign the Aerodrome Competency Certificate to indicate compliance with these requirements.

CATEGORY C

Category C airports are defined as airports to which a crew member may not operate until competency has been established by an airport briefing (AB) and either PE, or a representative airport model SIM approved for the purpose by the Regulatory authority.

The validity of Category C airport competency is 13 months. Validity is maintained by LINE OP or PE. Revalidation is by PE or approved SIM. The Training Captain shall sign the Aerodrome Competency Certificate to indicate compliance with these requirements.

In case of a crew member changing fleet or promoted to the rank of Captain, competency must be re-established in the new operating capacity.

CATEGORY X

Category X airports are airports which may not be nominated as a destination or alternate on the ATS Flight Plan but are considered suitable for use if a non-scheduled landing is required for operational necessity. Crew members may operate to Category X airports on the basis of self-briefing from the Jeppesen charts, specifically noting the terrain hazards.

NOTE: In an emergency, irrespective of competency status, a crew may land at any suitable airport.

DEFINITIONS

LINE OP	Normal line operation as crew to the airport revalidates for 13 months.
PE	Physical Entry is defined as operation to the airport as operating crew, duty travel in the cockpit or as crew under line check where the Training Captain has previously established competency. In cases involving a new operation for Dragonair, PE requirements are satisfied by duty travel in the cockpit with another airline, preferably the local airline. The inclusion of the crews' names on the General Declaration for the flight is considered sufficient confirmation of the PE being completed.
AV	Audio-visual presentation.
SIM	A simulator exercise consists of a review of the relevant Port Pages, a review of company manuals for the airport and simulation of a departure and arrival, followed by a standard instrument approach and go-around. Additionally, for Category C airports, the simulator airport model shall be representative of the actual airport. The exercise shall be supervised by on Approved simulator instructor.
AB	Airport briefing requires crew to be briefed by AGMF or his delegate. A review of relevant Port Pages, company manuals and briefing material is required.
SB	Self-briefing by crew shall include a review of applicable briefing notes, together with the Port Pages and Jeppesen charts.

8.1.2.3 AUTHORISATION OF AIRPORT – EMERGENCY SERVICES

AIRFIELD FIRE/CRASH FACILITIES

ICAO Requirements

It is a requirement that the level of rescue and fire fighting (RFF) service at an

aerodrome be assessed by the operator to ensure an acceptable level of service is available for the type of aircraft used.

The level of service available at each aerodrome is expressed as an RFF category, which takes into account the availability of extinguishing agents, equipment to deliver the agents and personnel to man the equipment, etc. They are based on the 'critical' aircraft type.

The 'critical' aircraft can be defined as the aircraft type which has the greatest number of movements during the busiest consecutive three months of the year. It is, therefore, not necessarily the biggest or that with the greatest potential fuel load, or the one capable of carrying the most passengers.

Company Policy

The RFF category for each aircraft type is based on the overall aircraft length and maximum fuselage width. In principle, the RFF category for each aerodrome required to be specified on the operational flight plan should meet the RFF category for the aircraft type. However, the level may be reduced for alternate aerodromes, or in the event of temporary downgrades.

The minimum acceptable RFF level for each aircraft type operated by Dragonair is shown in the table below.

Aerodrome Type	Minimum Aerodrome RFF Category		
	A320	A321	A330
Departure	6 (4)	7 (5)	9 (7)
Destination	6 (4)	7 (5)	9 (7)
Takeoff Alternate Destination Alternate En-route Alternate	4	5 (4)	7 (5)
ETOPS Alternate Critical Point Alternate	4	4	4

Figures in brackets can be used in the event of a temporary downgrade not exceeding 72 hours, or for ad-hoc charters / aircraft upgrades.

In the event that the number of movements of aeroplanes in the highest category is less than 700 in the busiest consecutive three months, the category provided may be one less than that shown in the table above, but not lower than Category 4. A note to this effect will be included in the port page.

In-flight, the Commander may decide to land at an aerodrome regardless of its RFF category if, in his judgement after giving due consideration to all prevailing circumstances, to do so would be safer than to continue.

8.1.2.4 LIGHTING

Precision Approach Lighting Systems provide additional guidance from 300 metres before the runway threshold to 900 metres into the runway.

Runway Centreline Lights (RCL) are white from the threshold to a point 900 metres from the runway stop end. The RCL then change to alternate red and white lights until 300 metres from the end, where they change to red.

NOTE: The distance at which the lights turn alternate red/white may vary on some runways, however they are invariably all red at 300 metres (1,000ft) from the

stop end.

Runway exits are marked with alternate green and yellow lights which lead into the taxiway centreline lights. Taxiway centreline lights change to green when clear of the ILS sensitive areas.

There are secondary power supplies for all airfield lighting.

8.1.3 AERODROME AND EN-ROUTE OPERATING MINIMA

8.1.3.1 AERODROME OPERATING MINIMA

Take off minima for normal operations are presented on the appropriate Jeppesen Airport charts (normally 10-9A).

Landing minima for all normal operations are presented on the applicable Jeppesen instrument approach chart.

Commanders must not plan a flight to an airport without an instrument approach aid. Exceptionally, flight planning to an airport without an instrument approach shall only be authorised by the AGMF after operating procedures and airport operating weather minima have been specified.

If there is a conflict between Jeppesen published operational information and Dragonair produced operational information, the latter has overriding authority.

When using Jeppesen published minima, Category D values shall be used.

With the exception of the pre-flight planning stage detailed at Part A 8.1.4.2 – Planning Minima For Destination Airport, factoring of visibility shall not be used at any time to obtain an equivalent RVR. When RVR is not available for an approach, the reported visibility shall be considered limiting in the same manner as RVR.

MINIMUM DECISION HEIGHT (DH) OR MINIMUM DESCENT HEIGHT (MDH)

The minimum Decision Height (DH) or Minimum Descent Height (MDH) are listed in the table below:

Precision Approach Aids		Non-Precision Approach Aids	
CAT 1 ILS	200ft DH	LLZ	250ft MDH
PAR	200ft DH	ILS (back beam)	250ft MDH
CAT 2 & 3 ILS See Section 8.4.1.2 & LVO port page		SRA (terminating at 1/2 NM)	250ft MDH
		SRA (terminating at 1 NM)	300ft MDH
		SRA (terminating at 2 NM)	350ft MDH
		VOR	300ft MDH
		NDB	300ft MDH
		NDB without a FAF (USA only)	350ft MDH
		GPS/RNAV	250ft MDH

The Commander has the authority to apply minima higher than those prescribed if, in his opinion, it is necessary to do so in order to secure the safety of his aircraft.

CIRCLING MINIMA

Circling Minima Definition

Circle to land minima are calculated using three standards. The standards used by individual countries on the Dragonair network are listed below. In all cases the visual manoeuvring (circling) area is centred on the threshold of the runway (see diagrams below).

The minimum circle to land altitude and visibility for all Dragonair aircraft types is 1,000ft AAL with a visibility of 4,600m. The higher of this minima or the Jeppesen chart published minima must be used for any circling approach.

NOTE: Under adverse weather conditions, especially strong winds circling at 1,000ft

AAL may not be possible within the protected area of FAA or JAPAN TERPS defined below.

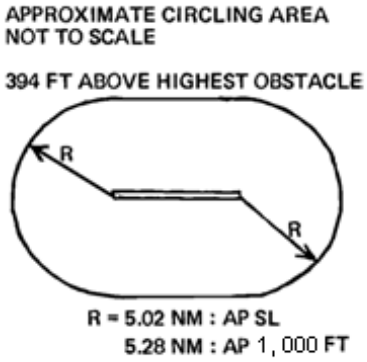
CAUTION: When circling minima is presented on an approach chart, only the approach protected area defined by the appropriate regulations may be shown on the applicable approach chart.

There may be significant obstacles or terrain in the area immediately outside that defined by the circling TERPS rules. Such obstacles would as a result, be off the edge of the approach chart and not be evident to the crew. It is therefore critical that the aircraft remain within the protected area while circling.

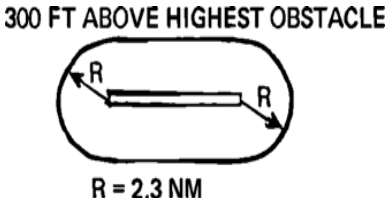
Circling Minima Rule Definition

PANS-OPS:

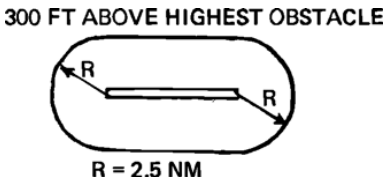
Australia	Malaysia
Bahrain	Myanmar
Bangladesh	Nepal
Belgium	Netherlands
Brunei	New Zealand
Cambodia	Pakistan
China	Philippines
France	Russia
Germany	Singapore
Hong Kong	Sri Lanka
India	Switzerland
Indonesia	Thailand
Italy	UAE
Korea*	United Kingdom
Laos	Vietnam
Macau	



FAA TERPS:
Canada
Korea*
Saudi Arabia
Taiwan
USA



JAPAN TERPS:
Japan



* Korea uses PANS-OPS or TERPS criteria at different airports. Refer to Jeppesen approach charts for applicability (displayed to the left-hand side of the landing minima).

PAR APPROACHES

PAR approaches are not approved in the USA.

ILS FACILITIES

ILS facilities are protected according to the following ICAO standard:

Localiser:

- 17nm within 35° of LLZ course
- 25nm within 10° of LLZ course

Glidepath:

- 10nm within 8° of RWY centreline

Some airports may differ from the above − any difference should be promulgated by Aeronautical Information Circular.

The ILS beam should be protected from interference from ground traffic when Low Visibility Procedures are in force. It should be noted that, in the United States, the ILS Critical Area is not protected if the weather conditions are better than 800ft cloud ceiling and two statute miles visibility.

Under certain ILS test criteria it is possible that a false glide path signal is radiating which will produce an 'on glideslope' indication on the flight deck, irrespective of the aircraft's position in relation to the actual glidepath.

A NOTAM referring to an ILS or other related navaid facility "awaiting flight check" may only be issued to indicate that the flight check of the facility is outside the recommended flight check schedule. The serviceability of the navaid is not affected, and it may be used for normal operations, unless the NOTAM specifically states otherwise.

When any maintenance or other work on the facility has taken place, there is a specific ICAO requirement that it must be NOTAMed as "unserviceable".

8.1.4 FLIGHT PLANNING

8.1.4.1 GENERAL

PRE-FLIGHT BRIEFING AND FLIGHT DOCUMENTATION

Cathay Pacific Flight Dispatch is responsible for the provision of operational briefing documentation for all flights, inclusive of Computer Flight Plans (CFPs), meteorological data, NOTAM summaries and any additional operational information pertinent to the flight.

Operational documents are available at Flight Dispatch in Hong Kong or are delivered to the aircraft to permit onboard briefing.

The briefing documents for each flight will be uploaded to the web-based Centralised Flight Dispatch (CFD) system where they may be previewed by operating crews. However, all operational briefing documents must be thoroughly reviewed when crew report for duty to check for late changes.

Company NOTAMS

Company NOTAMS contain information of an operational nature and supplement NOTAMS. This information is of a short-term nature and is frequently reviewed and updated.

DISPATCH

For the purposes of this chapter, dispatch is defined as the time the parking brake is released prior to commencing pushback or taxi.

8.1.4.2 PRE DISPATCH

The following weather minima shall be used at the flight planning stage:

PLANNING MINIMA FOR TAKE-OFF ALTERNATE AIRPORT

Weather conditions at the take-off alternate must be at, or above, the CAT 1 landing minima (or the minima for the approach in use if no ILS available).

PLANNING MINIMA FOR DESTINATION AIRPORT

The forecast weather conditions for the ETA at the destination airport shall be at or above the published landing minima.

The following criteria shall be used in the assessment of destination weather:

a. For landing minima, the following forecast visibilities may be ignored:

   i. Prob, of any value

   ii. Tempo (changes expected to occur for periods less than 60 minutes)

   Inter* (changes expected to occur for periods less than 30 minutes)

   * Note: The term “Inter” is not used by all States.

b. Visibility, when converted to an equivalent RVR, is at or above the minima for landing. Equivalent RVR may be determined in accordance with the following table:

Equivalent RVR = Reported Visibility x Visibility Factor	Visibility Factor	
Lighting Elements Available	**Day**	**Night**
HIALS & HIRL	1.5	2.0
Any type of lighting installation other than above	1.0	1.5
No lighting	1.0	-

c. Cloud ceiling (cloudbase) shall be evaluated, though it is not a limiting factor when a precision approach is available.

Where the approach is a non ILS approach, the cloud ceiling must be forecast to be at or above the appropriate DH/MDH (DA/MDA).

Cloud ceiling is defined as more than half the sky covered by cloud. The meteorological designations, BKN and OVC, both constitute cloud ceiling.

d. LVO minima may be used to determine landing minima where the aircraft is appropriately equipped, the crew qualified, and a LVO approach is available.

e. Crosswind shall be evaluated in relation to aircraft and crew limits.

Destination Airport Below Landing Minima, or Forecast Not Available

When actual weather reports or forecast weather for the destination airport, or any combination thereof, indicate the weather at the time of intended landing will be below the published landing minima, or if a valid forecast is not available, two destination alternate airports shall be selected.

Both destination alternate airports shall have the following requirements:

a. The weather shall meet the criteria for filing as a destination alternate.

b. Fuel shall be planned to permit diversion to the most distant of the two selected alternates.

c. All destination alternates shall be specified on the ATS flight plan.

PLANNING MINIMA FOR ALTERNATE AIRPORTS AND ISOLATED DESTINATION AIRPORTS

Calculation of Minima For Filing as an Alternate

The minima calculated in accordance with Table A and associated Notes shall be used to determine minima for filing as an alternate.

TABLE A Calculation of Minima for Filing as an Alternate.

One available approach to a suitable runway	Add 400ft to the published DH/MDH* (DA/MDA)	Add 1500m (1SM) to the published visibility or RVR
Two (or more) available approaches to separate, suitable runways	Add 200ft to the higher of the (two least restrictive) published DH/MDH* (DA/MDA)	Add 800m (1/2SM) to the higher of the (two least restrictive) published visibilities or RVRs.

* Use of DH/MDH permits direct correlation with the forecast cloud ceiling as it is referenced to Above Aerodrome Level (AAL).

NOTES:

1. A “separate” runway is defined as a separate landing surface located at the same airport. Each runway may overlay or cross such that, if one of the runways is blocked, it will not prevent operations on the other runway.

   Each runway shall have a separate approach procedure based on a separate approach navigational aid. A published RNAV or GPS (GNSS) approach shall be considered a separate navigational aid in this context.

2. A “suitable” runway is defined as a runway where a safe landing may be made taking into account the forecast weather conditions.

3. LVO minima shall not be used as a basis to calculate minima for filing as an alternate.

4. Cloud ceiling is defined as more than half the sky covered by cloud. The meteorological designations, BKN and OVC, both constitute cloud ceiling.

5. Where State Alternate Minima are published, these are shown on the Jeppesen airport chart as “For Filing as an Alternate”. Crew calculated minima from Table A must not be less than any State minima, where published.

6. Prob, Tempo or Inter values may be ignored provided they are at, or above, the applicable published landing minima.

Destination Alternate Airport

Forecast visibility and cloud ceiling shall be at or above the Company specified "minima for filing as an alternate". Additionally, crosswind shall be forecast to be at or below the aircraft or crew operating limit.

The “minima for filing as an alternate” is the higher of Company calculated or, where published, State operating minima. The applicable minima are calculated by Navigation Services Unit and are shown on the CFP.

A list of applicable minima for all airports in the Port library held on board the aircraft is available at both Flight Dispatch and the Integrated Operations Centre (IOC). In the unlikely event of the minima list not being readily available to crew, Table A and associated Notes shall be used to calculate the appropriate minima for filing as an alternate.

At some airports, two sets of alternate minima will be shown on the CFP. This is due to large differences in minima related to opposite runway directions and their associated navigational approach aid(s). Crew shall determine whether the appropriate runway will reasonably be available before selecting the lower of the related alternate minima.

When a destination airport is considered isolated, defined as no alternate airport available within 1 hour 45 minutes flight time from the destination, additional fuel and flight planning constraints apply. See Alternate Airport Not Available (Island Reserve) below.

Alternate Airport Not Available (Island Reserve)

An alternate airport is not available when the destination airport is isolated, i.e. an alternate airport is not available within 1 hour 45 minutes flight time of the destination.

The requirements for flights to destinations where an alternate airport is not available are in accordance with Normal Flight Planning with the following additional provisions:

a. Forecast weather conditions at destination, half an hour before to two hours after planned arrival, shall be at or above Alternate Planning Minima and the wind within aircraft crosswind limits.

b. Fuel Requirements

   The Alternate and Reserve Fuel to be substituted by two-hour's holding fuel, at

normal cruise consumption, overhead the destination airport.

When an alternate airport is not available, a CP (both one engine inoperative and depressurised) and point of no return (one engine inoperative) will be provided on the CFP.

NOTE: Use of this policy requires authorisation from the Duty Operations Manager or Line Operations department.

En-Route Alternate (ERA) Airports

Prior to dispatch and at the planning stage, en-route alternate airports nominated in support of engine inoperative or depressurisation mandatory fuel calculations shall meet the requirements of "Minima for Filing as an Alternate".

When the minima for a selected ERA is not shown on the CFP, crew shall use Table A and associated Notes to calculate the applicable minima.

ETOPS Nominated Airports

Prior to dispatch and at the planning stage, en-route alternate airports nominated in support of ETOPS shall meet the requirements of "Minima for Filing as an Alternate".

When the minima for an ETOPS nominated alternate is not shown on the CFP, crew shall use Table A and associated Notes to calculate the applicable minima.

Twin Engined Aircraft Additional Requirements

Twin engined aircraft are to remain within 60 minutes flying time of an adequate airport, unless operating in accordance with Dragonair ETOPS policy. For these purposes, this is defined:

A320	424nm
A321	404nm
A330	434nm

An adequate airport is an airport which has sufficient runway length and taxiway availability for use by the aircraft type, is equipped with the necessary ancillary services such as ATC, lighting, weather reporting, at least one serviceable navigation aid or a suitable RNAV-RNP/GPS (GNSS) approach and has adequate RFF.

Such en-route adequate airports which are not specified under ‘En-Route Alternate Airports’ or ‘ETOPS Nominated Airports’ above, shall, at the planning stage, have a weather forecast at or above the published landing minima and a crosswind at or below the aircraft and crew limits at the time of intended use.

8.1.4.3 POST DISPATCH

MINIMA TO BE USED

a. Landing minima, including aircraft or crew crosswind limits, shall be used to assess the continued adequacy of any airport.

b. To protect against aircraft or airport systems downgrades when destination weather forecasts indicate that LVO operations will be required, crews should select a destination alternate which permits CAT 1 operations.

8.1.5 METEOROLOGICAL INFORMATION

8.1.5.1 GENERAL

At the pre-flight stage, Flight Dispatch will provide meteorological information to flight crews for the point of departure, take off alternate (if required), destination, destination alternate and en-route airports.

Crews are to use all available means to monitor weather information during flight. Specifically crews are required to monitor destination weather, destination alternate weather, and en-route alternate weather (where an ERA is required).

A flight may not continue towards the intended destination unless the latest available information indicates that, at the expected time of arrival, a landing can be made at the airport or at least one alternate airport.

If weather reports (TAF, METAR, ATIS, etc.) are available by ACARS, there is no requirement to transcribe the data onto the CFP provided a printed copy is retained in the Flight Documents Envelope.

8.1.5.2 METEOROLOGICAL FORECASTS AND REPORTS

ATIS

A list of Airports with available ATIS service is detailed in Vol. 5 Meteorology Section.

D-ATIS

1. Digital delivery of the ATIS via ACARS is a useful tool which should be used sensibly to relieve crew workload. A copy of the Departure and Arrival D-ATIS shall be placed in the Flight Document envelope.
2. D-ATIS has an “Auto Update” function which, if selected by the crew will automatically uplink to the aircraft any update of the ATIS. The use of the Auto Update function may be appropriate in certain circumstances (e.g. destination holding during adverse weather), however the system will continue to uplink updates to the aircraft for an extended period. The update period is defined by the ATC computer server and could cause an unnnescary distraction during a critical phase of flight. Crew should ensure “Auto Update” is cancelled before leaving the aircraft.

VOLMET

A list of ports with a VOLMET service together with the applicable frequency, hours of operation and the contents are available in Vol. 5 Meteorology Section.

D-VOLMET

Digital delivery of METAR, SPECI, SIGMET and TAF may be accessed via ACARS.

PROVISIONAL FORECAST (PROV TAF)

1. A Provisional Forecast, annotated “PROV”, indicates that the designated issuing authority did not issue the forecast. This may be due to the airport or the designated MET office not issuing a forecast or the forecast is missing.
2. When issuing a PROV forecast the authority uses the meteorological data available including satellite imagery, statistical data and any local information obtained from the ATC unit at that airport. A PROV forecast has the same validity as any other forecast. A MET office will not issue a PROV forecast unless they have sufficient data available. Otherwise, it will be listed as “forecast not available”.

8.1.5.3 WEATHER DECODES

ICAO and FAA METAR/TAF decode formats are detailed in the Vol. 5 Meteorology

Section.

A specimen SNOWTAM format and decode is available in Vol.5 Tables & Codes Section. The Japan domestic SNOWTAM decode information is documented in Vol. 5 Meteorology – Japan Section.

8.1.5.4 PILOT REPORTS - PIREPS/AIREPS

Pilot Weather Reports (PIREPs) of conditions encountered by aircraft during flight are useful to other pilots, weather briefing units and forecasters as they supplement the weather information received from meteorological observing stations.

Flight crew are encouraged to report any unforecast weather conditions or any significant atmospheric phenomena when making in flight position reports. Significant atmospheric phenomena include Clear Air Turbulence (CAT), windshear, airframe icing and volcanic ash.

Air Reports (AIREPs) are usually made over areas where weather information is limited or non-existent (e.g. oceanic). AIREPs also contain supplemental aircraft position information.

8.1.5.5 ADVERSE AND POTENTIALLY HAZARDOUS ATMOSPHERIC CONDITIONS

Refer FCOM/PRO-SUP-91 Adverse Weather.

TYPHOON PROCEDURES

General

Typhoon conditions are associated with very gusty winds and it is the gusts which must be catered for. Large airspeed changes may occur in these conditions. See relevant FCOM for aircraft handling procedures.

Typhoon Affecting Hong Kong

In the event of a typhoon affecting Hong Kong, inbound crews should be updated by ACARS at least once every hour. This message should include the current operational status of the airport, weather information and, if required, preferred diversion ports.

Should operations at Hong Kong be suspended, the Company will nominate airports as preferred diversion ports based on:

i. Typhoon Track and local weather

ii. Ground handling and Engineering support

iii. Traffic congestion

IOC will attempt to provide guidance on which port is preferred on the day of operation but it should be stressed that the final decision as to which port to use will rest with the Commander.

It should be noted that IOC and station staff will be unable to provide the normal level of support during a major disruption – hence any administrative issues, such as crew allowances, should be managed by the aircraft commander and will be resolved upon return to Hong Kong.

TURBULENCE

All flights will normally despatch with a High Level significant Weather Chart. An appropriate chart will be selected depending on the length of flight and number of sectors. It is acceptable to use one chart for a multi-sector flight. Crews should assess the information on the chart provided to determine areas of significant weather relative to the intended flight and brief the FA1 on any areas of expected turbulence.

During severe weather situations, e.g. typhoons, Flight Despatch may provide additional charts.

For the avoidance of doubt, a Significant Weather chart is not a required document for despatch purposes.

Clear air turbulence (CAT) remains a problem for flight operations, particularly above 15,000ft. The best information available on this phenomenon is still obtained via PIREPs as a CAT forecast is generalised and covers large areas. All flight crew encountering CAT are requested to immediately report the time, location, Flight Level and intensity of the phenomena to the ATC facility with which they are maintaining radio contact.

VOLCANIC ASH

During recent years there have been major volcanic eruptions in the USA, Mexico and Indonesia. The frequency of these eruptions has focused attention upon commercial jet aircraft operating in the vicinity of active volcanoes.

Some time ago two 747 aircraft experienced multiple engine shutdowns as a result of flying through volcanic dust. The dust was in the vicinity of the volcano Galunggung near the city of Bandung, Indonesia.

Both incidents occurred at night. In the first incident an RB211 powered aircraft at 37,000 ft experienced a thrust loss on all four engines, including a four and one half minute period in which all engines were shut down. One engine was started at 14,000 ft, and the other engines were started at 12,500 ft. In the second incident, a JT9D-7A powered aircraft at 33,000 ft experienced a thrust loss on all four engines. Three of the four engines were shut down. One of the engines was successfully started by 26,000 ft and a two-engine landing was accomplished. In both cases, windshields and leading edges were abraded and visibility through the windshields was restricted. In the first incident, boroscope inspection revealed volcanic dust deposits in three engines and they had to be replaced. After a ferry flight to a maintenance base, the fourth engine was replaced. In the second incident, all four engines were replaced.

All flight crews should be aware of the following:

a. Flight in areas of known volcanic activity must be avoided. This is particularly important during hours of darkness or daytime instrument meteorological conditions when volcanic dust may not be visible.

b. When a flight is planned into an area with a known potential for volcanic activity, it is recommended that all NOTAM's and Air Traffic Control Directives be reviewed for current status of volcanic activity.

c. If volcanic activity is reported, the planned flight should remain well clear of the area and if possible stay on the upwind side of the volcanic dust.

d. Airborne weather radar systems used on commercial aircraft are not designed to detect volcanic dust and cannot be relied on to do so. In one of the above incidents, it was specifically reported that the weather radar was ON with no returns noted. This is consistent with other reports where volcanic eruptions have been visually sighted with no returns observed on the weather radar.

e. Volcanic dust may be difficult to detect at night or during flight in cloud; however, the following have been reported by flight crews:

   i. Smoke or dust appearing in the cockpit.

   ii. An acrid odour similar to electrical smoke.

   iii. Multiple engine malfunctions, such as stalls, increasing EGT, torching from tailpipe, flameout, etc.

   iv. At night, St. Elmo's fire/static discharges may be observed around the windshield, accompanied by a bright orange glow in the engine inlets.

   v. Volcanic dust may extend for several hundred miles. If volcanic dust is encountered, exit as quickly as possible.

f. Volcanic dust can cause rapid erosion and damage to the internal components of the engines. In one of the 747 incidents, all four engines lost thrust within 50 seconds. Volcanic dust buildup and blockage of the high pressure turbine nozzle guide vanes and the high pressure turbine cooling holes can cause surge, loss of thrust and/or high EGT. Retarding thrust to idle will lower the EGT which will reduce the debris buildup on the turbine blades and improve the engine stall margins. Further improvement in engine stall margin can be obtained by increasing the bleed air extraction through operation of the engine and wing anti-ice systems.

It may become necessary to shutdown and then restart engines to prevent exceeding EGT limits. If an engine fails to start, repeated attempts should be made immediately. A successful engine start may not be possible until the engine is out of the volcanic dust and the airspeed and altitude are within the airstart envelope. Engines are very slow to accelerate to idle at high altitude, which may be interpreted as a failure to start or as an engine malfunction.

g. Volcanic dust may block the pitot system and result in unreliable airspeed indications. In one of the reported incidents, a 50 knot difference was noted between the Captain's and First Officer's airspeed. If unreliable or loss of airspeed indications occur, establish the appropriate pitch attitude as shown in the respective Operations Manual for Flight with Unreliable Airspeed.

Volcanic dust is very abrasive and can cause serious damage to the aircraft engines, wing and tail leading edge surfaces, windshields, landing lights, etc. Volcanic dust can cause all of the windshields to become translucent, obstructing vision. If this condition should occur, on aircraft with autoland capability, a diversion to an airport where an autolanding can be made should be considered. Erosion damage to the landing lights, may cause significant reduction in their effectiveness.

The information above is reproduced from a Boeing Bulletin.

HONG KONG AIRPORT LIGHTNING WARNING SYSTEM

Background Information

The Hong Kong Observatory's "Airport Thunder and Lightning Alerting System" (ATLAS) combines lightning strike data with weather radar information to track and predict the movement of thunderstorms, as well as to generate warnings of potential lightning activity at the airport.

Warnings

ATLAS generates RED and AMBER warning as follows:

RED Lightning detected within 1km around the airport; or

Lightning forecast to be within 1km around the airport.

AMBER Lightning detected within 5km of the Aerodrome Reference Point AND intense radar echo within 15km of the ARP; or

Lightning forecast to be within 5km of the ARP

The alert will remain valid for 4 minutes after these criteria cease to be valid.

Notification

RED and AMBER warning lights are installed at all frontal bays and remote stands, and are accompanied by a siren which is activated at the beginning and end of the warning period.

Warnings will be disseminated to outbound crew by Flight Despatch staff or HAS personnel.

ATC will advise arriving aircraft of the warning once they are transferred to the Ground Frequency.

If the warning is forecast for a prolonged period, a note will be added to the ATIS message.

General Precautions

Whilst outside the aircraft, the following general precautions should be observed:

- Do not take shelter under the aircraft fuselage or wings
- Avoid contact with external parts of the aircraft
- Keep clear of tall objects
- Keep clear of metal objects
- Do not hold metal objects such as tools or umbrellas
- Do not work on high stands or platforms

Effect On Operations

Ramp activities continue as normal during an AMBER warning.

During a RED warning, operations will be affected as follows:

Crew Transport

- Crew transport to and from the Passenger Terminal Building will continue as normal.
- Transport to remote stands will be suspended. If already at a remote stand, crew should remain on board the crew bus until the red warning is cancelled.

Ramp Handling

- All cargo and baggage loading / unloading will be suspended.
- If at the PTB, passenger boarding / disembarkation will continue as normal. If at a remote stand, passenger boarding / disembarkation will be suspended.
- Refuelling will be suspended.
- Security staff will suspend all unnecessary operations and take shelter.

Pushback

- Groundcrew will disconnect their headsets and the ensuing engine start will be without ground support.
- Pushback will be suspended; however, if the pushback has already commenced, it will continue until completed.

Parking

- The Preferential Stand Allocation System will be suspended and arriving aircraft will be assigned to any available frontal stand. Once these are full, aircraft shall be directed to remote stands. If all stands are full, aircraft will be instructed to hold on the taxiway.
- Marshalling will continue at the PTB, but will be suspended at remote stands.
- As chocks will not be inserted, one crew member must remain on board to monitor the brake pressure until ground crew contact is established.
- If the APU is inoperative, leave the right-hand engine running. If at a frontal stand, contact Apron Control on 121.775 to advise that the park brake is set, left engine is shutdown and the aircraft is ready for passenger disembarkation.

8.1.6 FUEL AND OIL REQUIREMENTS

8.1.6.1 DEFINITIONS

TAXI FUEL

Represents APU usage, engine start and taxi for departure.

TRIP FUEL

(Fuel to destination) includes fuel allowance for:

a. Take-off and climb

b. Departure manoeuvring

c. Cruise

d. Descent

e. Destination manoeuvring

f. Approach and landing.

Calculations of Trip Fuel are based on planned landing weight at destination. The calculation assumes the Contingency Fuel has been used en-route. The CFP Trip Fuel assumes a default runway for both departure and arrival. Where the actual runway in use is different, Commanders may consider adjusting Trip Fuel accordingly.

CONTINGENCY FUEL

Contingency Fuel is to allow for errors in forecast winds or temperatures, restrictions on altitude, minor route changes due to ATC or weather and extended taxi times.

MANDATORY FUEL

On certain sectors an amount of additional fuel must be carried to support the following requirement:

a. Sufficient fuel must be available, at all times during the flight, to allow the flight to be continued to the nearest suitable airport, hold for 30 minutes at 1,500ft and carry out an approach and landing.

b. Loss of pressurisation and the failure of one engine must be considered. Depressurisation with all engines operating is normally the most fuel critical scenario.

ALTERNATE FUEL

Alternate Fuel is the fuel required to make a missed approach from minima at destination, fly to an alternate airport, plus 5% contingency, and carry out an approach and landing.

RESERVE FUEL

Reserve Fuel is equal to 30 minutes holding at 1,500ft, based on the aircraft's planned landing weight at the alternate.

Reserve Fuel is the company defined minimum fuel with which the aircraft must land.

MINIMUM DIVERSION FUEL

Minimum Diversion Fuel is the sum of Alternate Fuel and Reserve Fuel. Where an amount of fuel is determined to be unusable, the Minimum Diversion Fuel entered in the FM shall be increased by an amount equal to the amount of unusable fuel.

FUEL REQUIRED

Fuel Required is the minimum flight planned fuel for dispatch. It is the sum of:

a. Taxi Fuel

b. Trip Fuel

c. Contingency Fuel

d. Mandatory Fuel

e. Alternate Fuel

f. Reserve Fuel

RECOMMENDED EXTRA FUEL

Recommended Extra Fuel is fuel additional to Fuel Required, to cover known or suspected weather avoidance requirements, en-route air traffic constraints and destination holding delays. Where a Commander is very familiar with a particular route or flight he may reduce the amount of Recommended Extra Fuel based on his local knowledge and experience.

TOTAL FUEL

Total Fuel is the sum of:

a. Fuel Required

b. Recommended Extra Fuel

COST INDEX

Whenever applicable the fuel calculations are based on a Cost Index. The CFP cost index is a Company determined figure that takes all variable costs into consideration and in most cases represents the minimum trip cost. Where Cost Index flying is not available for a particular aircraft type, fuel calculation is based on Long Range Cruise.

PERF FACTOR

Whenever aircraft performance monitoring shows a particular aircraft's fuel flow to be different from that in the manufacturer's baseline, a percentage correction is shown on the CFP and applied to the fuel calculations. Exceptionally, the Perf Factor may be adjusted on the CFP to satisfy a MEL fuel flow penalty.

IDLE FACTOR

Used to adjust the FM descent predictions, a positive factor giving an earlier top of descent and a negative factor giving a later top of descent.

8.1.6.2 FUEL POLICY

GENERAL

The total amount of fuel on board the aircraft must be sufficient for the intended flight. It must include a safe margin for contingencies, including depressurisation and engine shutdown. The Total Fuel for the flight is specified on the Computer Flight Plan (CFP).

Line Operations review all sectors on a regular basis to ensure adequate fuel is planned. The CFP will include recommended extra fuel where experience on a route has shown that flight level restrictions or destination holding are common.

It is Company policy to load CFP Total Fuel unless there are sound operational reasons for loading extra fuel. When CFP Total Fuel is carried, the Company accepts responsibility for any diversion as a result of unusual circumstances.

The Commander retains final responsibility for adjusting the Total Fuel if, in his opinion, it is operationally justified.

FLIGHT PLANNING REQUIREMENTS

A Computer Flight Plan (CFP) will be produced for every sector showing the Total Fuel required for the flight.

The following guidelines will be used to determine the CFP Total Fuel.

Normal flight planning

The computer flight planning system will calculate Trip Fuel, Alternate Fuel and Reserve Fuel based on aircraft zero fuel weight. It will also calculate any Mandatory Fuel requirement.

a. Taxi Fuel

A standard Taxi Fuel figure is normally used for each aircraft type.

A320/A321 200kg

A330 500kg

At certain airports where taxi time is above average a higher taxi fuel may be planned.

Taxi Fuel may be varied at the discretion of the Captain.

b. Contingency Fuel

i. On most flights Contingency Fuel is planned as 5% of the Trip Fuel from departure to destination.

ii. Minimum Planned Contingency fuel is not less than 5% of the Trip Fuel from overhead or abeam the last suitable en-route airport (ERA) to destination.

iii. Planned Contingency Fuel will never be less than

A320/A321 130kg

A330 300kg

c. Mandatory Fuel

Normally, mandatory fuel build up is required only when one or more of the following conditions exist:

i. The sector has a long over water segment.

ii. The sector has a long final route segment between the last en-route airport and the destination airport.

iii. There is a relatively short distance to the nominated alternate airport.

When a sector requires, or unavailability of an En-Route Airport (ERA) would generate, mandatory fuel build-up, those ERAs with their associated Critical Points (CP) and fuel requirements will be shown on the CFP.

On some routes, where there are numerous ERAs on the latter part, it is assessed as impossible to generate mandatory fuel. In this case, no ERAs or CP will be shown.

NOTE: Mandatory Fuel will become extra fuel after passing the last en-route CP. This should be considered before loading extra fuel for destination contingencies.

d. Alternate Fuel

Alternate Fuel is planned using Cost Index 0 and includes 5% contingency.

e. Recommended Extra Fuel

The following guidelines will be used for CFP construction.

i. When there are no expected delays or ATC restrictions, Recommended Extra will be planned such that the sum of Contingency, Mandatory and Recommended Extra fuel is not less than:

A320 600kg

A321 800kg

A330 1,500kg

ii. The sum of Alternate, Mandatory and Recommended Extra Fuel should not be less than Reserve Fuel, thus ensuring approximately 1 hour's fuel in tanks on arrival at destination.

iii. On sectors where there are known ATC restrictions or expected delays, Recommended Extra Fuel will be included on the CFP. The reason will be clearly stated in the CFP special navigation notes.

NOTES:

1. Recommended Extra fuel is calculated using statistical data. When experience is gained on a particular route Commanders may reduce Recommended Extra as appropriate.
2. When circumstances so dictate (e.g. payload restrictions or to avoid minimal uplifts), Commanders may reduce the fuel to Fuel Required.
3. Fuel additional to Recommended Extra should not be carried unless there are sound operational reasons for doing so. The penalty for carrying additional fuel is between 2.5% and 4.5% per hour of flight, dependant on aircraft type. This percentage of the additional fuel uplifted will be burned off due to the increase in the aircraft's weight.

Depressurisation

General

Sufficient fuel must be carried to permit in the event of loss of pressurisation, or the failure of an engine, at any point on the planned route:

a. Continued flight to the nearest suitable airport for landing;

b. Hold at 1,500ft over that airport for 30 minutes; and

c. Carry out an approach and landing.

On any Dragonair route for which the route analysis shows that the above requirement is limiting, a Route Brief will be published to indicate the minimum Diversion Fuel Required along the planned route.

Depressurisation Fuel Planning

The fuel planning calculation for depressurised flight normally assumes descent to FL100, then long range cruise to TOD.

When depressurisation is a critical factor on any sector, the CFP will show Critical Point (CP) information between selected en-route airport (ERA) pairs. Mandatory Fuel will be calculated and added into the CFP fuel plan if required. On some routes Mandatory Fuel is required if fuel remaining at the CP is less than the Diversion Fuel Required, as listed in the Route Brief. The Diversion Fuel Required includes 5% contingency fuel from the CP to the ERA. The emergency descent must adhere to the descent profile shown on the Enroute Diversion Guide to ensure oxygen capacity and performance considerations.

NOTAM information must be checked to ensure suitability of any selected ERA. Airports may be used outside of normal operating hours if it is known that they can be activated on an emergency basis.

Alternate Airport Not Available (Island Reserve)

Refer to Part A 8.1.4.2

Re-clearance Operations In-flight

On rare occasions, inflight planning to a revised destination may be required for commercial reasons.

Should it be necessary to re-plan inflight, the following criteria must be met until the planning exercise is complete and the revised destination has been communicated to ATC.

a. The destination airport weather meets the criteria specified in flight planning minima to be used for a Destination Airport.

b. An alternate airport must be available where the weather at that airport meets the criteria specified in flight planning minima to be used for an Alternate Airport.

c. Fuel is sufficient to continue to destination, plus 5% contingency fuel from a point overhead or abeam the last suitable en-route airport, plus Minimum Diversion Fuel.

Fuel Tankering

a. General

Due to the variation of fuel costs at different ports, tankering of fuel may be cost effective on certain sectors. The economics of fuel tankering is decided by comparing intended uplift fuel cost against that at the destination airport. The benefits of tankering fuel are sector specific and are revised on a regular basis.

It is Company Policy that tankering fuel should never be applied to the extreme. The fuel uplift should be considered judiciously with regard to all operational factors, such as runway changes and possible en-route track shortening, which may result in a lower trip fuel and the aircraft arriving at destination over Maximum Landing Weight. eg. HKG to TPE, where the CFP is planned for RWY 25 departure but RWY 07 is in use.

If a departure or destination airport is forecast to have contaminated runways, taxiways or aprons, CAT “B” or CAT “C” (see below) uplift notifications which would have the effect of increasing the take-off or landing weight may be disregarded or adjusted downward to provide an additional safety margin.

b. Fuel Uplift Categories

There are three fuel uplift categories CAT A, CAT B and CAT C, as defined below. Fuel uplift category of A, B or C will be specified on the CFP Dispatch Message for all sectors. The fuel uplift policy is based on the aircraft’s movements, not the crew’s movements.

Fuel Uplift categories are:

i. CAT “A” (One Sector Fuel)

Sufficient fuel for one sector; tankering is not economical.

ii. CAT “B” (Two Sector Fuel)

Full CAT B fuel is sufficient fuel to operate two sectors without refuelling at the intermediate port.

iii. CAT “C” (Three Sector Fuel)

Full CAT C fuel is sufficient fuel to operate three sectors without refuelling at either intermediate port.

NOTES: FOR GUIDANCE

1. The fuel uplift category only applies to the airport of departure. Once the first sector is operated the CFP Dispatch Message should be consulted to determine the uplift category for the next sector.

2. On CAT "C" flights with a low ZFW at the point of departure, consideration should be given to the possibility of an increase in the ZFW after the first stop. This could result in a landing weight restriction at the second stop.

3. When operating a CAT A sector after a CAT C sector, care should be taken to ensure that the CFP "Fuel Required" figure is used as a reference when considering fuel uplift.

   The CFP Total Fuel may include Rec Extra Fuel left over from the preceding Cat C sector.

4. CFPs for CAT B and C sectors are normally constructed to a limiting weight. This is normally MLW minus 500kg. The reason for this buffer is simply that CFPs are created approximately two hours prior to departure based on an estimated ZFW from load control.

   Load control staff then have the relevant margin available to plan further uplift without having to revert to the Dispatch staff. This is especially important ex Hong Kong where most CAT B and C sectors originate, as express cargo is accepted up to ETD minus 1 hour resulting in a late increase in ZFW.

   At Dispatch, flight crews should make sensible use of the estimated ZFW information. Use of standby fuel figures on CAT B and C sectors will allow planning flexibility in case of a last minute change in ZFW. Once the final ZFW is known, it is acceptable to plan to maximum landing weight taking into account any possible track shortening en-route.

5. Some routes, promulgated by Company NOTAM, are historically subject to excessively bulky or overweight cabin baggage which, when intercepted, should be placed into the aircraft hold. In this case a LMC is required; therefore an additional 300 KG buffer should be applied to cater for this last minute increase in ZFW.

Standby Fuel Figure

On flights of 4 hours or more it is company policy that a standby fuel figure be used. It may also be appropriate to use a standby fuel figure when uplifting CAT B or C fuel.

The following process is recommended.

a. Load a fuel figure of CFP Total Fuel minus: 3,000kg

b. Keep the refueller at the aircraft until the final fuel figure is calculated.

Adjust the CFP Total Figure once the final ZFW has been received (approximately 30 minutes prior to departure) and advise the refueller accordingly.

8.1.6.3 OIL POLICY

Refer to FCOMs.

8.1.7 WEIGHT AND BALANCE

8.1.7.1 GENERAL

The Commander/PIC shall ensure that before each flight a "Load and Trim sheet" is prepared and complies with the aircraft weights and CG certified limitations.

The correct loading of the aircraft is the legal responsibility of the Commander/PIC.

The person preparing the Load and Trim sheet confirms the correct distribution of the load with his signature on the form, or by the addition of his name in the case of a computerised loadsheet.

The Commander/PIC should be satisfied that the load is distributed in a correct and safe manner and that it is properly stowed and secured.

The Commander/PIC should bear in mind the following assumptions:

- The Aircraft Weighing Report showing the Basic Weight and Index of the empty aircraft has been correctly compiled.
- All freight has been correctly weighed and loaded in accordance with the Load and Trim sheet.

The Commander/PIC is personally responsible for:

- Checking that sufficient fuel and oil of the correct grade are on board and correctly loaded and distributed.
- Checking the Load and Trim sheet calculation.
- Checking the Load and Trim sheet for any LMC calculations.
- Accepting and signing, including by ACARS, the Load and Trim sheet.

The Commander/PIC shall sign the Load and Trim sheet after having checked it.

8.1.7.2 LOADING

GENERAL PAYLOAD PRIORITIES

Each Station maintains a priority list issued by Airports (AHQ) Department as a guide for accepting or off-loading payload.

NOTE: Payload includes Passengers and Cargo.

LOADSHEET

A computer generated Loadsheet, or a Manual Load and Trim Sheet shall be completed for every flight.

A "No Change to Traffic Load" Loadsheet is used when an aircraft diverts or makes a technical stop when no change is made to the traffic load onboard and a new computer Loadsheet cannot be sent to or received by the aircraft.

PASSENGER WEIGHTS

Standard Passenger Weights will be used for Loadsheet calculations unless there is an obvious discrepancy between the standard weight and the physique of a large percentage of the passengers.

The Standard Passenger Weights are:

a. Adult males (over 12 years) 72kg;

b. Adult females (over 12 years) 62kg;

c. Children (2 - 12 years) 36kg;

d. Infants (under 2 years) 8kg including infant's food and carry-basket;

e. Cabin baggage minimum 3kg per passenger aged 2 or over.

Hand-carry baggage in excess of the standard weights detailed above shall be included as additional Cabin baggage in the weight calculation on the Loadsheet. No additional trim calculation is required, as it is assumed the baggage would be evenly distributed throughout the aircraft cabin.

The weight of Jumpseat Passengers is NOT included in the Dry Operating Weight (DOW), but is included as Traffic Load on the Loadsheet.

CREW WEIGHTS

Crew and Supernumerary Passenger baggage shall be loaded and secured in accordance with the Dragonair Aircraft Handling Manual.

a. Flight Crew 77kg (including 5kg Cabin baggage);

b. Cabin Crew 67kg (including 5kg Cabin baggage).

BAGGAGE WEIGHTS

A Standard weight of 16kg per item of checked baggage (loaded in the cargo compartment) shall be used for the Load Distribution estimate. Actual baggage weight will be included on the Loadsheet.

LOADING INSTRUCTIONS

The purpose of aircraft loading instructions is to ensure that the aircraft is loaded safely and complies with the rules and limitations set by Dragonair and the Aircraft Manufacturer's specifications.

A qualified Load Controller shall complete a Loading Instruction Form (LIF) that confirms the load distribution prior to departure for every flight. This forms the basis for the Load and Trim sheet which, in practice, will be compiled by CLC.

The Commander must be advised when a non-standard method has been used for determining the weight of the load, and the method must be stated in the Weight and Balance documentation.

The cargo shall be weighed and positioned so as to respect both the individual Unit Load Device position weight limitation and the total cargo compartment weight limitation as given in FCOM/PER-LOD-CGO Cargo Capacity and in the Weight and Balance Manual.

LOADING IN SEAT PACKS AND BAGGAGE ON SEATS (DIPLOMATIC BAGS, MUSICAL INSTRUMENTS AND RELIGIOUS ARTICLES)

In the unlikely event that Seat packs are used to facilitate the carriage of baggage or cargo in the Cabin, Airports (AHQ) will issue the necessary information;

Passengers are not permitted to store baggage on empty seats, even if the passenger is willing to pay for the seat; with the exception of diplomatic bags, musical instruments and religious articles.

Airport Services staff shall inform the FA1 whenever the above items are carried in the passenger cabin. In addition to informing the Commander/PIC, the FA1 shall ensure the item has been correctly secured. Refer to Vol 7.1.3.

FLEXI-LOADING

To enhance flexibility, a "Flexi Loading" system may be used on all Dragonair aircraft. The physical cabin configuration (seats and bulkhead, etc.) is not changed, but several versions of passenger complement may be seen on loadsheets and on the load advice given at briefing.

Computer generated loadsheets will reflect the version in use for that particular flight. The manual loadsheet will also show the version in use; however, the trim

sheet will remain unchanged.

8.1.7.3 CENTRALISED LOAD CONTROL

Centralised Load Control (CLC) is located in Hong Kong and produces all ACARS loadsheets. A backup system permits CUPAC Loadsheets to be delivered to an Airport Gate printer at most online stations.

ZFW / Loadsheet Timeline:

- ETD - 6 hours — Estimated ZFW issued to Flight Despatch for production of CFP;
- ETD - 60 mins — Traffic staff verbally inform the Flight Crew of the latest ZFW;
- ETD - 30 mins — Final ZFW sent via ACARS to the aircraft printer by CLC;
- ETD - 25 mins — Final Fuel Figures sent to CLC via ACARS by the Flight Crew;
- ETD - 15 mins — Loadsheet sent via ACARS to aircraft printer by CLC;
- ETD — Aircraft off-blocks (with Loadsheet acknowledged / signed - refer to Part A 8.1.7.4.xii 'CERTIFICATION'.

8.1.7.4 LOAD AND TRIM SHEETS

This section explains Weight and Balance documentation and contains the information necessary for Flight Crew to complete and check Dragonair Loadsheets and Trim Sheets.

i. DEFINITIONS

Basic Weight (BW)

The Basic Weight for Dragonair aircraft is the Empty Weight of the aircraft plus the standard operating items listed in the Weight and Centre of Gravity Schedule.

Dry Operating Weight

The weight of the aircraft in operating configuration. It is obtained by the addition of the Basic Weight and Pantry Weight. The weight of Unit Load Devices (ULDs) is not included in the DOW.

Centre of Gravity (C of G)

This is derived from the Weight and Centre of Gravity Schedule and is expressed as both percentage MAC and Index. It is used as the basis for the completion of the Trim section of the Loadsheet.

Weight and Centre of Gravity Schedule

The Weight and Centre of Gravity Schedule is produced by CX Engineering Department for individual Dragonair aircraft. It contains the aircraft Weight Summary for different configurations, together with the C of G expressed as a percentage MAC and as an Index.

Revenue/Training and Testing

The two categories of Basic Weight and Index used in the construction of Loadsheets are:

- Revenue

  Revenue Weight and Index includes the Empty Weight of the aircraft plus Galleys, standard Cabin Crew and operating Flight Crew, Potable Water and all removable items. The Revenue figures are used for all commercial flights.

OR

- Training and Testing

  Excludes all items listed above, except for an allowance for 2 Flight Crew and Potable Water.

The Basic Weight and Index are placarded on the aircraft centre pedestal for easy reference by the Flight Crew when cross-checking the loadsheet. The placard is updated by CX Engineering Department, prior to the aircraft returning to service, whenever any additional equipment is added to, or removed from, the aircraft.

Loadsheets for Base Training and Test Flights will be constructed using the Training / Testing Weight and Index.

411A0002

B-HLB	DATE: 05 Jan 2011		
44J/267Y	KG	INDEX	%MAC
REVENUE	122138	596	22.1
TRAINING AND TEST	121401	609	22.4

Figure 1. Basic Weight and Index Placard.

Pantry Weight and Index

A standard catering weight and index is included in the Dry Operating Weight, dependent on aircraft type, as follows:

Type	Applicability	Weight (kg)	Index (units)
A320	All except B-HSQ/R	1,168kg	+4
A320	B-HSQ/R	941kg	+4
A321	All	1,455kg	+5
A330	B-HYB/F/I/J	2,829kg	+13
A330	B-HYG	2,990kg	+30
A330	B-HYQ	2,923kg	+15
A330	B-HWF/G/K	2,834kg	-12
A330	B-HWH/I/J	2,673kg	+11
A330	B-HLB/C/E/L	3,172kg	+10

The Pantry Weight and Index need only be checked if a Manual Loadsheet is used, as the DOW calculation is completed automatically for ACARS / CUPAC loadsheets.

Index Tables

These tables can be found under Part A 8.1.7.4.vi 'INDEX ADJUSTMENT TABLES' and provide information on Weight and Index corrections to be used for changes to the number of Crew and Passengers, Cargo, Galley equipment and any other items

not included in the Traffic Load.

The Tables may be used to determine the Weights and Index Units to be used for a Last Minute Change to a Loadsheet.

Last Minute Changes (LMCs)

Last Minute Changes are defined as adjustments to the aircraft load as a result of No Show/Go Show passengers or freight, additional Crew or fuel load. Dragonair limits and procedures are included in this Section.

C of G Tolerance

The CG limits given in the Load and Trim sheet include tolerances to cope with a combination of the following independent errors:

- error in initial conditions (Dry Operating Weight and Index)
- error in cargo loading (weight and distribution)
- error in passenger boarding (weight and distribution)
- error in fuel (quantity and distribution)
- error due to graphical method

and the following movements:

- landing gear, flaps and slats movements
- movements in the cabin

ii. COMPUTER LOADSHEETS

General

Two types of Computer Loadsheet are produced. The primary Loadsheet is the ACARS Loadsheet. A Cathay Unisys Passenger Acceptance Control (CUPAC) Loadsheet is used at CLC Stations where delivery by ACARS is not available due to equipment or communications problems.

Loadsheets are usually delivered directly to the aircraft ACARS printer, or the Boarding Gate Printer in the case of a backup CUPAC Loadsheet.

ACARS Loadsheets

The preferred procedure for transmitting the final Weight & Balance data to Dragonair aircraft is via the aircraft ACARS system.

The following guidelines shall be followed:

- ACARS should be initialised at approximately STD-40 minutes. Initialising the ACARS establishes the delivery addresses for the flight.
- The Flight Crew shall be advised by ACARS, or by the Traffic staff, the final ZFW at approximately STD-30 minutes, or immediately after “Flight Closed” (Figure 2).

```
KA0802 HKG-PVG
CRW/02/12
PAX/196 INCLUDING 002 INF
FINAL ZFW/160820
FLT STATUS : CLOSED
LCO: SAMUEL
```

Fig.2. ACARS Final ZFW Advice

- The Flight Crew shall confirm the actual Total Fuel, Take-off Fuel and Trip Fuel figures following receipt of the final ZFW. This shall be completed by STD-25 minutes using the ACARS Fuel Figures page.
- The ACARS Loadsheet shall be transmitted to the aircraft at approximately STD-20 minutes. Refer section to Part A 8.1.7.4.xii 'CERTIFICATION' for certification requirements.
- The Traffic Staff shall confirm POB and the latest Loadsheet Edition Number (EDNO) with the Flight Crew once all Passengers are confirmed on-board.
- The Supplementary Information (SI) box on the bottom of the Loadsheet is a free text format section which allows the Load Controller to manually include Special Load information that cannot be commented on in the Load Plan system. For example, Manual Trim is required when Non-Standard Fuel loading occurs as the system does not take the Trim effect into account for the balance calculation.
- For LMCs, refer to section Part A 8.1.7.4.v 'LAST MINUTE CHANGE (LMC)'.
- Minor differences between the final ZFW passed by the Traffic staff and Loadsheet ZFW transmitted to the aircraft may be observed. This is acceptable and is usually due to last minute off-loading of No Show baggage or Cargo. Traffic Staff shall obtain the Commander's approval if the Final ZFW is required to be changed by 200kg or more.

```
LOADSHEET                        EDNO 01
HKG PVG      KA0802/30            B-HLB
J44Y267             2/12/0       30MAR11

ZFW ACT   160745      MAX 172000
TO FUEL    30900
TOW ACT   191645      MAX 205000
TRIP FUEL  11300
LAW ACT   180345      MAX 182000  L
BALANCE AND SEATING
BW        122138      DOW     125377
BI        596.00      DOI     612.00
LIZFW     596.18      MACZFW   22.77
LITOW     477.03      MACTOW   20.99

DLI       606.49
STAB TO   7.0
0A/44 0B/72 0C/77
T21457.1/2534.2/6946.3/5182.4/6286.5/509
.VAL/13L.XPS/34R.RFL/42P.XPS/42P
PVG J044 Y149  +INF 2
TTL PAX 195         UNDERLOAD    1655
LMC
DEST   SPEC   CL/CPT   +/-   WGT / IDX
.....................................
.....................................
.....................................
.....................................
***** NOTOC REQUIRED: YES *****

CMDR NAME_____________________________PRINT.

SIGN_____________________________________________

SI


LOADSHEETER/SAMUEL SO/HKG130
```

Fig.3. ACARS Loadsheet

ACARS Loadsheet Terminology

EDNO	Edition number of the Loadsheet	
FROM/TO	3-letter IATA code of the Origin and Next Destination Stations	
FLIGHT	Flight Number and Date (DD)	
A/C REG	Aircraft Registration	
VERSION	The sector "Sales" configuration of the aircraft. The Sales configuration may be different to the aircraft Seating configuration on the Weight and Balance placard. F and C Class may be sold as C Class only. The total seat figures for F and C class are added together on the Loadsheet.	
CREW	The total Flight Crew, Cabin Crew and Positioning Crew (e.g. 2 Flight Crew / 12 Cabin Crew / 0 Positioning Crew)	
DATE	Local Date (DD/MMM/YY)	
ZERO FUEL WEIGHT (ZFW)	ACTUAL (ACT)	The sum of total Traffic Load plus DOW.
	MAXIMUM (MAX)	The figure may be the Maximum Structural ZFW, or ZFW limited by PADD or Crew/Flight Despatch input.
TAKE OFF FUEL (TO FUEL)	The weight of fuel in tanks after taxi.	
TAKE OFF WEIGHT (TOW)	ACTUAL (ACT)	The sum of ZFW plus take-off fuel.
	MAXIMUM (MAX)	The maximum allowed for the flight.
TRIP FUEL	The weight of fuel to be used on the sector.	
LANDING WEIGHT (LAW)	ACTUAL (ACT)	TOW minus Trip Fuel.
	MAXIMUM (MAX)	Maximum Structural Landing Weight.
	L	Limiting weight (ZFW, TOW or LAW) with reference to the Underload.

BALANCE AND SEATING	BW	Empty Weight of the aircraft plus Standard Operating Items. The weight is placarded on the Flight Deck and shall be checked for accuracy by the Commander/PIC.
	BI	The Centre of Gravity moment (expressed in Index Units) at the Basic Weight. This Index shall be checked by the Commander/PIC against the Flight Deck placard.
	DOW	Equals Basic Weight of the aircraft, plus Catering, Equipment spares and Crew weight. Jumpseat passenger weight is excluded. J/S Pax weight is included in the Traffic Load.
	DOI	Basic Index plus any adjustments, i.e. change in Crew, Galley, additional Flight Spares.
	LIZFW	The Laden Index Zero Fuel Weight is the sum of the Dry Operating Index (DOI) plus the Index Changes for ALL loaded passenger and cargo positions as calculated by CLC. (The calculations cannot be seen or checked).
	LITOW	Laden Index Take-off Weight is the sum of LIZFW plus the Fuel Index as calculated by CLC.
	MACZFW	The Centre of Gravity for the ZFW.
	MACTOW	The Centre of Gravity for the TOW.
	DLI	Dead Load Index. The DOI corrected for the index effect of the Load in Compartments.
	STAB TO	The Stabiliser Trim setting for take-off.

PASSENGERS	Total number of Passengers occupying seats in each Class per sector (e.g. PEK F010 J036 Y151 +INF 3), plus the total number of Infants on board.
SEATING	The actual number of Passengers occupying seats in each Cabin Zone (e.g. OA/44 OB/72 OC/77).
LOAD IN COMPARTMENTS (T)	The total weight in the Cargo holds (e.g. .T21457 = total 21,457kg).
WEIGHT DISTRIBUTION	Individual weights in each Cargo hold (e.g. 1/2534 = 2,534kg in Hold 1).
NOTOC	NOTOC Code and Cargo compartment (e.g. XPS/34R = express mail in ULD position 34R)
TTL PAX	The Total number of Passengers on board (e.g. 195).
UNDERLOAD	The weight of UNUSED Traffic Load (e.g. 1655). (Allowed Traffic Load minus the Actual Traffic Load).
LAST MINUTE CHANGE (LMC)	Manual LMC adjustments. If the final ACARS Loadsheet edition cannot be obtained following receipt of the initial ACARS Loadsheet, then two CUPAC Loadsheets should be printed. LMCs shall be annotated on both copies of the CUPAC loadsheet and signed by the Commander/PIC. Destination (DEST), Specifications (SPEC), Class/Compartment (CL/CPT), Weight (WGT) and Index (IDX).
NOTOC REQUIRED	YES/NO entry indicates to the Commander/PIC if a NOTOC is required for the sector.
CMDR NAME	Space for Commander's name to be written in capital letters.
SIGN	Space for Commander's signature.
SUPPLEMENTAL INFO (SI)	Free text format section which permits the Load Controller to manually update any Special Load information that can't be annotated in the Load Plan (LDP) system (e.g. LMC, L/S revision, Non-standard fuel loading).

CUPAC Loadsheets (ACARS Not Available)

The CUPAC system is the Cathay Pacific Load Control System that manages Passenger and Cargo details from Check- in through to Loadsheet production.

At ports supporting CLC, the CUPAC Loadsheet shall always be printed (2 copies) as a backup to the ACARS Loadsheet at the Boarding Gate printer at STD-60mins.

CUPAC Loadsheets use the same terminology as ACARS Loadsheets. However, the layout is slightly different (See Figure 4).

If the ACARS Loadsheet uplink fails, Traffic staff at the departure airport are required to deliver two copies of the CUPAC loadsheet to Flight Deck.

LMCs shall be identically hand-written on both copies.

```
DRAGONAIR HONGKONG


L O A D S H E E T            CHECKED              APPROVED     EDNO
ALL WEIGHTS IN KG                                              01
                             SAMUEL SO/HKG130
                             ---------------------------------

FROM/TO FLIGHT         A/C REG VERSION        CREW     DATE    TIME
HKG PVG KA0802/30      BHLB    J44Y267        2/12/0   30MAR11 1030
                         WEIGHT           DISTRIBUTION
LOAD IN COMPARTMENTS      21457 1/2534 2/6946 3/5182 4/6286 5/509
                                0/0
PASSENGER/CABIN BAG       13911 135/58/0/2      TTL 195 CAB 0
                                PAX 44/149            JMP 0 CRW 0
TOTAL TRAFFIC LOAD        35368
DRY OPERATING WEIGHT     125377
ZERO FUEL WEIGHT ACTUAL 160745 MAX 172000      ADJ
------------------------------
TAKE OFF FUEL             30900
TAKE OFF WEIGHT  ACTUAL 191645 MAX 205000      ADJ
------------------------------
TRIP FUEL                 11300
LANDING WEIGHT   ACTUAL 180345 MAX 182000  L   ADJ
------------------------------
BALANCE AND SEATING CONDITIONS        LAST MINUTE CHANGES
DOI      612.00 DLI     606.49   DEST  SPEC    CL/CPT + - WGT & IDX
LIZFW    596.18 MACZFW   22.77
LITOW    477.03 MACTOW   20.99
STAB TO    7.0

SEATING
0A/44 0B/72 0C/77

UNDERLOAD BEFORE LMC      1655             LMC TOTAL + -

LOADMESSAGE AND CAPTAINS INFORMATION BEFORE LMC
BW 122138 KGS         BI   596.00
TZFW/PVG 125377 KGS

LDM
KA0802/30.BHLB.J44Y267.02/12
-PVG.135/58/0/2.0.T21425.1/2534.2/6946.3/5182.4/6286
.5/509
.PAX/44/149.PAD/1/4.VAL/13L.XPS/34R.RFL/42P.XPS/42P
***** NOTOC REQUIRED: YES *****

CMDR NAME_____PRINT. SIGN_____

SI
```

Fig.4. CUPAC Loadsheet

CUPAC Loadsheet Terminology

CHECKED / APPROVED	Either the Loadsheet Officer's printed name or signature is required.
EDNO	Edition number of the Loadsheet
FROM/TO	3-letter IATA code of the Origin and Next Destination Stations
FLIGHT	Flight Number and Date (DD)
A/C REG	Aircraft Registration
VERSION	The sector "Sales" configuration of the aircraft. The Sales configuration may be different to the aircraft Seating configuration on the Weight and Balance placard.
CREW	The total Flight Crew, Cabin Crew and Positioning Crew (e.g. 2 Flight Crew / 12 Cabin Crew /0 Positioning Crew)
DATE	Local Date (DD/MMM/YY)
TIME	UTC
LOAD IN COMPARTMENTS	The total weight in the Cargo holds (e.g. 21,457 kg).
CARGO DISTRIBUTION	Individual weight in each Cargo hold (e.g. 1/2534 = 2,534kg in Hold 1)
PASSENGER/CABIN BAG	The total weight and number of Passengers plus additional Cabin Baggage. The breakdown of Passengers - Adult Males, Adult Females, Children and Infants (e.g. 135/58/0/2= 135 males, 58 females, 0 children, 2 infants).
TTL	The total number of Passengers on board (e.g. 195 = 135+58+0+2).
CAB	The weight of additional Cabin baggage.
PAX	The breakdown of passengers by Class of seat occupied (e.g. 44/149 = 44 Business Class, 149 Economy Class). The figure does not include infants.
JMP/CRW	Number of eligible Passengers allocated Jump and Crew seats.
TOTAL TRAFFIC LOAD	The sum of load in Compartments + Passengers and Cabin baggage.

DRY OPERATING WEIGHT	The Basic Weight of the aircraft plus Catering, Equipment spares and Crew weight. Jumpseat passenger weight is excluded. J/S Pax weight is included in the Traffic Load.	
ZERO FUEL WEIGHT	ACTUAL	The sum of total Traffic Load plus DOW.
	MAXIMUM	The figure may be the Maximum Structural ZFW, or ZFW limited by PADD or Crew/Flight Despatch input.
	ADJ	Any Last Minute Adjustment to the ZFW (handwritten amendment).
TAKE OFF FUEL	The weight of fuel in tanks after Taxi.	
TAKE OFF WEIGHT	ACTUAL	The sum of ZFW plus take-off fuel.
	MAXIMUM	The maximum allowed for the flight.
	ADJ	Any last minute adjustment to actual take-off weight (hand-written amendment).
TRIP FUEL	The weight of fuel to be used on the sector.	
LANDING WEIGHT	ACTUAL	TOW minus Trip Fuel.
	MAXIMUM	The Maximum Structural Landing Weight.
	ADJ	Any adjustment to the actual landing weight (handwritten amendment).
	L	Limiting weight (ZFW, TOW or LAW) with reference to the Underload.
BALANCE AND SEATING		
	DOI	Basic Index plus any adjustments, i.e. extra Crew, Galley, additional Flight Spares.
	DLI	Dead Load Index. The DOI corrected for the index effect of the Load in Compartments.

	LIZFW	The Laden Index Zero Fuel Weight is the sum of the Dry Operating Index (DOI) plus the Index Changes for ALL loaded passenger and cargo positions as calculated by CLC.
	LITOW	Laden Index Take-off Weight is the sum of LIZFW plus the Fuel Index as calculated by the Load Control computer.
	STAB TO	The Stabiliser Trim setting for take-off.
	MACZFW	The Centre of Gravity for the ZFW.
	MACTOW	The Centre of Gravity for the TOW.
LAST MINUTE CHANGES	Manual Last Minute Changes to the Loadsheet shall be completed with an ink pen and entered here. LMCs shall be annotated on both copies of the Loadsheet and signed by the Commander/PIC. Destination (DEST), Specifications (SPEC), Class/Compartment (CL/CPT), Weight (WGT) and Index (IDX).	
SEATING	The actual number of Passengers occupying seats in each Cabin Zone (e.g. OA/44 OB/72 OC/77)	
UNDERLOAD BEFORE LMC	The weight of UNUSED Traffic Load. (The Actual Traffic Load deducted from the Allowed Traffic Load).	
LMC TOTAL (+ -)	Total weight of LMC	

LOADMESSAGE AND CAPTAINS INFORMATION BEFORE LMC

	BW	The Basic Weight of the aircraft. The Basic Weight is placarded on the Flight Deck and shall be checked for accuracy by the Commander/PIC.
	BI	The Centre of Gravity moment (expressed in Index Units) at the Basic Weight. This Index shall be checked by the Commander/PIC against the Flight Deck placard.
	TZFW/ PORT	The Transit ZFW through the next Station.

	LDM	Expanded load message to include weights of total and individual cargo hold as well as NOTOC information.
NOTOC REQUIRED	YES/NO entry indicates to the Commander/PIC if a NOTOC is required for the sector.	
CMDR NAME	Space for Commander's name to be written in capital letters.	
SIGN	Space for Commander's signature.	
SUPPLEMENTAL INFO (SI)	Free text format section which permits the Load Controller to manually update Special Load information that can't be annotated in the Load Plan (LDP) system (e.g. LMC, L/S revision, Non-standard fuel loading).	

iii. MANUAL LOADSHEET

Whilst it is not expected that Flight Crew should be able to complete a Manual Loadsheet, they shall be familiar with the method of construction and the requirements for cross-checking.

All stations are required for recurrent training to produce a Manual Loadsheet for a flight at least once a month. The aim is to maintain Ground Staff and Flight Crew familiarity in the event of a CLC computer system outage.

The Manual Loadsheet is constructed following ICAO guidelines. There are three main sections as depicted in Figure 5.

Section 1 is a simple arithmetical calculation, using the left hand column, starting with the Basic Weight and adding Pantry, Passenger, Cargo, Mail and Fuel weights to determine the actual weights for Take-off and Landing.

Section 2 uses a separate calculation to determine the Underload available at Take-off, as limited by either;

a. Zero Fuel Weight (ZFW);

b. Take-off Weight (RTOW);

c. Landing Weight (LW).

The separate calculations in Section 1 and 2 permit a very simple cross-check by the Flight Crew. The addition of the Underload to the actual Takeoff Weight and then compared with the allowed weight for Take-off, (the lowest of a, b or c) confirms that all the Loadsheet arithmetical calculations are correct.

Section 3 is used to present LMC, MAC, STAB TRIM and ZFW MAC information derived from the Manual Trim Sheet.

Address . HKGQAKA

DRAGONAIR LOADSHEET & LOADMESSAGE (PASSENGER AIRCRAFT)

Doc No. AHQ/OPS/101KA/MAR11
ALL WEIGHT IN KG

Originator	Flight	A/C Reg	Version	Crew	Date
. HDQCLCX ≦ LDM ≦	KA 802 / 30	. B- HLB	. / 44 / 267	. 2 / 12 / 0 ≦	30MAR11

	Index	Weight		Maximum Weight for	Zero Fuel	Take-Off	Landing
Basic Weight & Index	596	1 2 2 1 3 8			1 7 2 0 0 0		1 8 2 0 0 0
Pantry Weight & Index	+10 +	3 1 7 2		Take-off Fuel +	3 0 9 0 0	Trip Fuel +	1 1 3 0 0
+/- Crew, Flight Spare etc. +01 CABIN CREW	+6 (+)	6 7					
Dry Operating Weight & Index	612 =	1 2 5 3 7 7		Allowed Weight for Take-off (Lowest of a, b or c)	a 2 0 2 9 0 0	b 2 0 5 0 0 0	c 1 9 3 3 0 0
Take-off Fuel	+	3 0 9 0 0		Operating Weight -			1 5 6 2 7 7
Operating Weight	=	1 5 6 2 7 7		Allowed Traffic Load = (Deduct Operating Weight from lowest of a, b or c)	SECTION 2A		3 7 0 2 3

Dest.	M	A(F)	CH	INF	Cab Bag		Total	1	2	3	4	5	0	F	J	Y	PAD F	PAD J	PAD Y
–						Tr													
	135	58	0	2		B	2 6 4 5				2507	138			44	149			
P V G						C	1 8 7 0 1	2534	6946	5182	3779	260		.FJY/ / /					
														.PAD/ / /					
						M	1 1 1					111		.B/		.TB/			
														.FB/		.PB/			≦
•	135/	58/	0/	2 .		.T	2 1 4 5 7	.1/2534	.2/6946	.3/5182	.4/6286	.5/509	.0/						
–						Tr													
						B													
						C								.FJY/ / /					
	SECTION 1													.PAD/ / /					
						M								.B/		.TB/			
														.FB/		.PB/			≦
•	/	/	/	.		.T		.1/	.2/	.3/	.4/	.5/	.0/						
–						Tr													
						B													
						C								.FJY/ / /					
														.PAD/ / /					
						M								.B/		.TB/			
														.FB/		.PB/			≦
•	/	/	/	.		.T		.1/	.2/	.3/	.4/	.5/	.0/						
	135	58	0	2		=	2 1 4 5 7	2534	6946	5182	6286	509		Total Passengers 193					

*Total Passenger Weight (Standard Weight Used) → + 1 3 9 1 1

		Weight			
Total Traffic Load	=	3 5 3 6 8	Allowed Traffic Load	3 7 0 2 3	
			→ -	3 5 3 6 8	
Dry Operating Weight	+	1 2 5 3 7 7	Underload	1 6 5 5	SECTION 2B
MZFW 1 7 2 0 0 0	AZFW =	1 6 0 7 4 5	ADJUSTMENT 1	ADJUSTMENT 2	
Take-off Fuel	+	3 0 9 0 0			
REG TOW (Lowest of a, b or c) 1 9 3 3 0 0	ATOW =	1 9 1 6 4 5			
Trip Fuel	-	1 1 3 0 0			
MAX Landing Weight 1 8 2 0 0 0	ALDW =	1 8 0 3 4 5			

LAST MINUTE CHANGES

Dest.	Specification	Cpt.	+/- Weight	+/- Index
	SECTION 3			
	L.M.C. Total			

BALANCE & SEATING CONDITIONS

Cabin		LIZFW
OA	44	602
OB	72	TOW MAC 21.0 %
OC	77	STAB TRIM 7.0
OD		ZFW MAC
OE		23.0 %

* Non-Standard Passenger Weights used (Specify)

SI
NOTOC:YES
RFL/42P

I certify that this aircraft is loaded in accordance with the current company written loading instructions.

SAMUEL SO/ HKG130

Loadsheet Officer / Licence No. (Block Letters)

Examined by

CAPTAIN'S SIGNATURE

CAPTAIN

Fig.5. Manual Loadsheet

iv. TRIM SHEET

The Trim Sheet is aircraft type specific and is used in conjunction with a Manual Loadsheet. The Trim Sheet need not be used when the Weight and Balance data is completed by the CLC computer.

The Trim Sheet contains Index Tables and a Mean Aerodynamic Chord (MAC) Envelope for calculating the position of the Center of Gravity at Take-off weight and Zero Fuel Weight, expressed as a percentage MAC, as well as ZFW Index and Take-off Weight Index.

Copies of Trim Sheets for each aircraft type and variant are available at Departure Airports. Additional copies are maintained in the aircraft Flight Documents Wallet. The Trim Sheet shall be completed in black or blue ball pen only.

Whilst it is not expected that Flight Crew should be proficient at completing a Manual Trim Sheet, they shall be familiar with the method of construction, how to derive Index figures and how to perform a check of the C of G for TOW, LAW and ZFW. Unless otherwise specified, the S.G. used in all fuel calculations is 0.785.

DRAGONAIR 港龍航空

A330-300 TRIM SHEET
For B-HLB / B-HLC / B-HLE
(J44 Y267)

DOCUMENT	DATE OF ISSUE	REVISION NUMBER
AHQ/OPS/008KA	MAR 2011	0

FLIGHT KA *802/30*
AIRCRAFT B - *HLB*
DATE *30-Mar-11*

COMMANDER *CAPTAIN'S NAME*
SIGNATURE *SIGNATURE*

LOADSHEETER *SAMUEL SO*
LICENCE *HKG130*
SIGNATURE *SIGNATURE*

CARGO LOADING INDEX TABLE

WEIGHT (KG)	HOLD 1	HOLD 2	HOLD 3	HOLD 4	HOLD 5
500	-38	-24	+15	+26	+36
1000	-77	-47	+29	+53	+72
1500	-115	-71	+44	+79	+107
2000	-154	-94	+58	+106	+143
2500	-192	-118	+73	+132	+179
3000	-231	-141	+87	+159	+215
3500	-269	-165	+102	+185	+248
4000	-308	-188	+116	+212	MAX 3468
4500	-346	-212	+131	+238	
5000	-384	-236	+146	+265	
5500	-423	-259	+160	+291	
6000	-461	-283	+175	+318	
6500	-500	-306	+189	+344	
7000	-538	-330	+204	+371	
7500	-577	-353	+218	+389	
8000	-584	-377	+233	MAX 7353	
8500	MAX 7601	-400	+247		
9000		-424	+262		
9500		-447	+277		
10000		-471	+291		
10500		-495	+306		
11000		-518	+320		
11500		-542	+325		
12000		-565	MAX 11154		
12500		-589			
13000		-612			
13500		-636			
14000		-659			
14500		-683			
15000		-707			
15260		-719			
		MAX 15260			

PASSENGER LOADING INDEX TABLE

ZONE A		ZONE B		ZONE C	
PAX	INDEX	PAX	INDEX	PAX	INDEX
2	-11	5	-5	5	+19
4	-22	10	-9	10	+38
6	-33	15	-14	15	+58
8	-43	20	-18	20	+77
10	-54	25	-23	25	+96
12	-65	30	-27	30	+115
14	-76	35	-32	35	+135
16	-87	40	-36	40	+154
18	-98	45	-41	45	+173
20	-109	50	-46	50	+192
22	-119	55	-50	55	+211
24	-130	60	-55	60	+231
26	-141	65	-59	65	+250
28	-152	70	-64	70	+269
30	-163	75	-68	75	+288
32	-174	80	-73	80	+307
34	-185	85	-78	85	+327
36	-195	90	-82	90	+346
38	-206	95	-87	95	+365
40	-217	100	-91	100	+384
42	-228	105	-96	105	+404
44	-239	110	-100	110	+423
MAX 44		115	-105	115	+442
		120	-109	120	+461
		125	-114	125	+480
		130	-119	130	+500
		135	-123	131	+503
		136	-124	MAX 131	
		MAX 136			

FOR LIZFW / LITOW

	INDEX TABLE (−)	INDEX TABLE (+)
DRY OPERATING INDEX		6 1 2
HOLD 1 *2534* KG	1 9 5	
HOLD 2 *6946* KG	3 2 7	
HOLD 3 *5182* KG		1 5 1
HOLD 4 *6286* KG		3 3 3
HOLD 5 *509* KG		3 7
PAX ZONE A *44* PAX	2 3 9	
PAX ZONE B *72* PAX	6 6	
PAX ZONE C *77* PAX		2 9 6
TOTAL INDEX	8 2 7	1 4 2 9
↳ −		8 2 7
LIZFW =		6 0 2
FUEL INDEX (S.G. 0.785KG/L) + / (−)		1 1 6
LITOW =		4 8 6

FOR L.M.C.

	INDEX TABLE
LIZFW	
TOTAL L.M.C. (Traffic Load) + / −	
AMENDED LIZFW =	
FUEL INDEX (S.G. 0.785KG/L) + / −	
TOTAL L.M.C. (Fuel) + / −	
AMENDED LITOW =	

FOR INDIVIDUAL FUEL TANK LOADING

	INDEX TABLE (−)	INDEX TABLE (+)
LIZFW		
OUTER TANK (LH) ____ KG		
OUTER TANK (RH) ____ KG		
INNER TANK (LH) ____ KG		
INNER TANK (RH) ____ KG		
TRIM TANK ____ KG		
TOTAL INDEX		
↳ −		
LITOW =		

NOTE:
INTERPOLATION MAY BE APPLIED FOR INTERMEDIATE VALUES.
EXTRAPOLATION IS NOT PERMITTED.

TRIM SHEET PART 1 OF 2

Fig.6a. Manual Trim Sheet (page 1)

DRAGONAIR 港龍航空

DOCUMENT	DATE OF ISSUE	REVISION NUMBER
AHQ/OPS/008KA	MAR 2011	0

FLIGHT KA 802/30
AIRCRAFT B - HLB
DATE 30-Mar-11

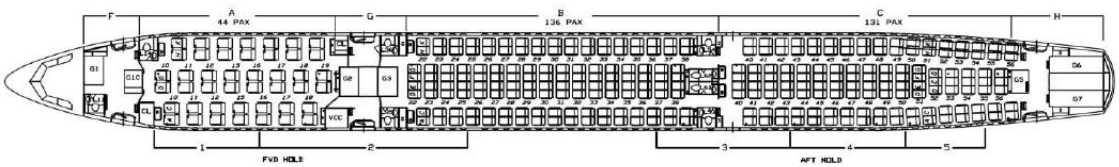
A330-300 TRIM SHEET (J44 Y267)
For B-HLB / B-HLC / B-HLE

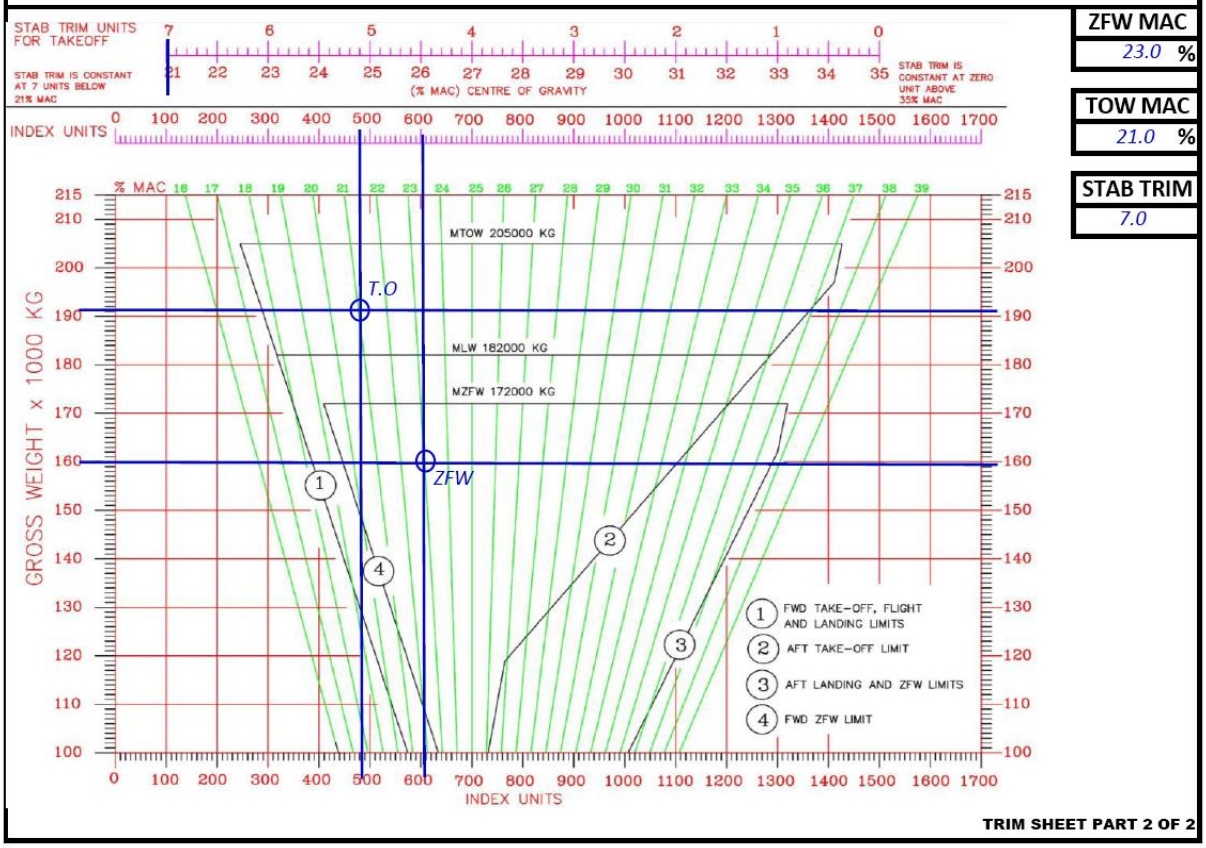
NOTE1: TRIM SHEET PART 2 MUST BE USED IN CONJUNCTION WITH PART 1
NOTE2: INTERPOLATION MAY BE APPLIED FOR INTERMEDIATE VALUES. EXTRAPOLATION IS NOT PERMITTED.

FUEL LOADING INDEX TABLE

TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)	TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)	TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)	TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)	TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)
1000	-10	21500	-34	38600	+71	57000	+6	72500	+77
2000	-21	22000	-38	38800	+93	58000	+5	73000	+83
3000	-32	23000	-48	38900	+105	59000	+6	73500	+89
4000	-42	24000	-57	39000	+104	60000	+6	74000	+95
5000	-53	24500	-61	39500	+100	61000	+8	74100	+96
6000	-63	25000	-66	40000	+96	62000	+10	74200	+97
7000	-74	26000	-75	41000	+88	63000	+12	74300	+98
8000	-84	26500	-80	42000	+80	64000	+16	74400	+99
9000	-94	27000	-84	43000	+73	64500	+18	74500	+107
10000	-77	28000	-93	44000	+65	65000	+20	74600	+119
10500	-67	29000	-102	45000	+58	65500	+22	74700	+130
11000	-58	30000	-110	46000	+51	66000	+25	74800	+142
12000	-37	31000	-119	47000	+44	66500	+28	74900	+153
13000	-15	32000	-127	48000	+37	67000	+30	75000	+165
14000	+10	33000	-136	49000	+31	67500	+34	75100	+176
15000	+30	34000	-144	50000	+26	68000	+37	75200	+188
16000	+19	35000	-152	51000	+21	69000	+44	75300	+200
17000	+10	36000	-161	52000	+17	69500	+48	75500	+223
18000	0	36500	-165	53000	+14	70000	+52	76000	+282
19000	-10	37000	-109	54000	+11	71000	+62	76840	+357
20000	-20	38000	+3	55000	+8	71500	+67		
21000	-29	38500	+59	56000	+7	72000	+72		

NOTE:
(1) Fuel density S.G. 0.785KG/L





ZFW MAC 23.0 %

TOW MAC 21.0 %

STAB TRIM 7.0

TRIM SHEET PART 2 OF 2

Fig.6b. Manual Trim Sheet (page 2)

v. LAST MINUTE CHANGE (LMC)

A LMC is a last minute adjustment or correction to the weight or load distribution of the aircraft. It is typically due to the late acceptance or offloading of passengers, baggage, cargo and mail after the completion of the loadsheet.

Dragonair has defined LMC limits as to the amount of Weight or Index Units that can be added or subtracted without changing the values in the main body of the loadsheet.

The approved LMC limits for Dragonair aircraft are as follows:

Aircraft Type	Weight	Index
A320/A321 series	+/- 250kg	+/- 1 unit
A330 series	+/- 500kg	+/- 25 units

The LMC Limit is calculated as a NET change, and consists of limits to both weight change and index change. This means that transferring 400kg from Hold 1 to Hold 4 will result in a zero weight change, although an index change will occur.

For an LMC consisting of cargo (baggage or freight), it must be ensured that the compartment and position maximum load limitations are not exceeded.

ACARS Loadsheets

There are two possible scenarios, depending on whether or not the LMC Limit is exceeded:

1. LMC limit is NOT EXCEEDED:

   A new loadsheet with revised EDNO shall be produced, and CLC will annotate LMC details under the SI column of the revised loadsheet edition and send via ACARS to the Flight Deck. The main body of the revised Loadsheet remains unchanged (Figure 7).

2. LMC limit is EXCEEDED:

   A new loadsheet with revised EDNO shall be produced, and CLC will update the Loadsheet content based on the load changes and send the revised loadsheet edition via ACARS to the Flight Deck. The main body of the loadsheet is changed with the updated load data (Figure 8).

Due to system constraints, a new ACARS loadsheet will be generated in response to a LMC to the fuel figures.

```
LOADSHEET                        EDNO 02
HKG PVG      KA0802/30            B-HLB
J44Y267             2/12/0       30MAR11

ZFW ACT   160745      MAX 172000
TO FUEL    30900
TOW ACT   191645      MAX 205000
TRIP FUEL  11300
LAW ACT   180345      MAX 182000  L
BALANCE AND SEATING
BW        122138      DOW     125377
BI        596.00      DOI     612.00
LIZFW     596.18      MACZFW   22.77
LITOW     477.03      MACTOW   20.99

DLI       606.49
STAB TO   7.0
0A/44 0B/72 0C/77
T21457.1/2534.2/6946.3/5182.4/6286.5/509
.VAL/13L.XPS/34R.RFL/42P.XPS/42P
PVG J044 Y149  +INF 2
TTL PAX 195         UNDERLOAD    1655
LMC
DEST   SPEC   CL/CPT   +/-   WGT / IDX
.....................................
.....................................
.....................................
.....................................
***** NOTOC REQUIRED: YES *****

CMDR NAME_____________________________PRINT.

SIGN_____________________________________

SI


CHANGES:
LMC TO L/S EDNO 01
MINUS MALE PAX Y01
MINUS FEMALE PAX Y01
MINUS  32  KGS BAG
TTL CHANGES - 172 KGS -  7  INDEX
TTL PAX 193

LOADSHEETER/SAMUEL SO/HKG130
```

Fig.7. LMC Limit is WITHIN LIMITS
The body of the Loadsheet is unchanged.

```
LOADSHEET                        EDNO 02
HKG PVG      KA0802/30            B-HLB
J44Y267             2/12/0       30MAR11

ZFW ACT   161345      MAX 172000
TO FUEL    30900
TOW ACT   192245      MAX 205000
TRIP FUEL  11300
LAW ACT   180945      MAX 182000  L
BALANCE AND SEATING
BW        122138      DOW     125377
BI        596.00      DOI     612.00
LIZFW     623.41      MACZFW   23.22
LITOW     503.17      MACTOW   21.46

DLI       643.05
STAB TO   6.8
0A/44 0B/72 0C/77
T22057.1/2534.2/6946.3/5182.4/6886.5/509
.VAL/13L.XPS/34R.RFL/42P.XPS/42P
PVG J044 Y149  +INF 2
TTL PAX 195         UNDERLOAD    1055
LMC
DEST   SPEC   CL/CPT   +/-   WGT / IDX
.....................................
.....................................
.....................................
.....................................
***** NOTOC REQUIRED: YES *****

CMDR NAME_____________________________PRINT.

SIGN_____________________________________

SI


CHANGES:
L/S REVISED
DEADLOAD CHANGES IN HOLD 4

LOADSHEETER/SAMUEL SO/HKG130
```

Fig.8. LMC Limit is EXCEEDED
The body of the Loadsheet has been revised.

CUPAC / Manual Loadsheets

LMCs may be handwritten - both copies of the loadsheet shall be annotated identically.

When the Flight Crew are required to complete a LMC on the Loadsheet, a Last Minute Change Advice Form or telex will be provided to the Flight Crew. Flight Crew shall copy the LMC Weight and Index corrections onto the Loadsheet.

If the LMC Limit is EXCEEDED, there are two options:

a. produce a new Loadsheet incorporating the changes; or

b. correct the relevant figures on the original Loadsheet as per the following notes.

1. *If the WEIGHT change EXCEEDS the LMC Weight Limit, adjust the ZFW, TOW and LW in the main body of the Loadsheet. Check that the revised weights remain within Structural and Operational limits.*
2. *If the INDEX change EXCEEDS the LMC Index Limit, calculate a new LIZFW, TOW MAC, STAB TRIM and ZFW MAC on the Loadsheet. A manual Trim Sheet shall be used to determine the corrections and to confirm that the revised figures remain within the CofG envelope.*
3. *If the WEIGHT change EXCEEDS the LMC Weight Limit but the INDEX change does NOT EXCEED the LMC Index Limit, only the procedure in Note 1 is required.*
4. *Changes to the fuel load shall be calculated separately from changes to the Traffic Load, as the Fuel Index change does not affect the LIZFW. The two Index changes shall then be added to determine if a Trim change is required.*

LMC Advice Forms

If a qualified person and ACARS / CUPAC Loadsheet are not available, CLC will instruct Traffic staff at the departure airport how to complete the change figures on the LMC Advice Form.

The Traffic staff will then present the LMC Advice Form to the Flight Crew who will make an amendment on the Loadsheet and return a copy of the Loadsheet to the Traffic staff for filing at the Station. Traffic staff are permitted to complete the amendment on behalf of the Flight Crew.

The Station copy of the LMC Advice Form requires a signature or endorsement by the Commander/PIC.

The LMC Advice Form shall not be used for changes greater than the LMC Weight or Index Limits.

DRAGONAIR

LAST MINUTE CHANGE ADVICE FORM

Flt. No.	KA802	Reg.	B-HLB	Station	HKG
Date	30-03-11		Loadsheet EDNO		01

DEST.	SPECIFICATION	Compt.	WEIGHT +/-	INDEX +/-
PVG	01 M PAX OFF	OC	-75	-4
PVG	01 F PAX OFF	OC	-65	-3
PVG	02 BAG OFF	H3	-32	0
	LMC TOTAL		-172	-7

L.M.C. Limitations	A330	A320/A321
Weight	+ /- 500 kgs	+ /- 250 kgs
Index	+ /- 25 I.U.	+ /- 1 I.U.

Delivered to Capt. By Damien Cheung (Print Name) At 0855 (Time)

Original / Tech Crew **2nd Copy** / Station File

Document No: AHQ/OPS/103KA
Date of Issue: March 2011

Fig.9. LMC Advice Form

vi. INDEX ADJUSTMENT TABLES

Standard crew complement for each aircraft type is as follows:

- A320 ALL — 2 Flight Deck Crew, 5 Cabin Crew
- A321 ALL — 2 Flight Deck Crew, 7 Cabin Crew
- A330 B-HLB/C/E/L — 2 Flight Deck Crew, 11 Cabin Crew
- A330 B-HYB to B-HYQ — 2 Flight Deck Crew, 13 Cabin Crew
- A330 B-HWF to B-HWK — 2 Flight Deck Crew, 11 Cabin Crew

For variations to the standard crew complement, or for changes to the load in the galleys, cabin or cargo holds, the corresponding index adjustments are obtained from the following tables.

For crew changes exceeding those covered by the tables, the extra crew member's actual seating position (e.g. Zone A) must be accounted for.

For Positioning Crew using a normal passenger seat, the actual seat zone index change must be applied. Adjustments should be made in the Adjustment box and reflected in the DOW/DOI on the Loadsheet.

A320 (J8 Y150)

			Crew		Passenger			Weight /
			Tech	C/A	Adult (Male)	Adult (Female)	Child	Deadload
Weight in kg.			77	67	75	65	39	Per 100 kg
Item On Index (-)	Observer Seat (1) Flight Deck		1	1	1	1		
	Observer Seat (2) Flight Deck		1	1	1	1		
Item Off Index (+)	Cabin Attendant Seat	L1 Door		1	1	1		
	Pax Cabin	OA Row 10-11	1	1	1	1	0	
		OB Row 22-31	0	0	0	0	0	
	Galley	G1						1.2
	Cargo Holds	1						0.6
Item On Index (+)	Cabin Attendant Seat	L2 Door		1	1	1		
	Pax Cabin	OC Row 32-47	0	0	0	0	0	
	Galley	G5						1.4
Item Off Index (-)	Cargo Holds	3						0.4
		4						0.7
		5						1

A321 (Y168)

			Crew		Passenger			Weight /
			Tech	C/A	Adult (Male)	Adult (Female)	Child	Deadload
Weight in kg.			77	67	75	65	39	Per 100 kg
Item On Index (-)	Observer Seat (1) Flight Deck		1	1	1	1		
	Observer Seat (2) Flight Deck		1	1	1	1		
Item	Cabin Attendant Seat	L1/R1 Door		1	1	1		
Off Index (+)	Pax Cabin	OA Row 22-27	1	1	1	1	0	
		OB Row 28-34	0	0	0	0	0	
	Galley	G1						1.2
	Cargo Holds	1						0.6
Item On Index (-)	Cabin Attendant Seat	L2 / R2 Door		1	1	1		
	Pax Cabin	OC Row 35-49	0	0	0	0	0	
	Galley	G5						1.4
Item Off Index (-)	Cargo Holds	3						0.4
		4						0.7
		5						1

A330 B-HLB / C / E / L

			Crew		Passenger			Weight /
			Tech	C/A	Adult (Male)	Adult (Female)	Child	Deadload
Weight in kg.			77	67	75	65	39	Per 100 kg
Item	Observer Seat (1)		8	7	8	7		
On	Flight Deck							
Index (-)	Observer Seat (2)		8	7	8	7		
	Flight Deck							
	Cabin	L1 / R1		7	7	7		
	Attendant	L1A		6	7	6		
Item	Seat	L2 / R2		3	4	3		
Off	Pax	OA	6	5	5	5	3	
Index (+)	Cabin	Row 10-19						
		OB	1	1	1	1	0	
		Row 22-38						
	Galley	G1						10
		G1C						9
		G2/G3						5
	Cargo	1						8
	Holds	2						5
Item	Cabin	L3 / R3		1	2	1		
On	Attendant	L4 / R4		5	6	5		
Index (+)		Aft of G6 & G7		6	6	6		
	Pax	OC	4	3	4	3	2	
	Cabin	Row 40-56						
Item	Galley	G5						8
		G6/G7						9
Off	Cargo	3						3
Index (-)	Holds	4						5
		5						7

A330 B-HYB / F / G / I / J / Q

			Crew		Passenger			Weight /
			Tech	C/A	Adult (Male)	Adult (Female)	Child	Deadload
Weight in kg.			77	67	75	65	39	Per 100 kg
Item	Observer Seat (1)		8	7	8	7		
On	Flight Deck							
Index (-)	Observer Seat (2)		8	7	8	7		
	Flight Deck							
	Cabin	L1 / R1		6	7	6		
	Attendant	L1A		6	7	6		
Item	Seat	L2 / R2		3	4	3		
Off	Pax	OA	6	5	6	5	3	
Index (+)	Cabin	Row 1-2						
		OB Row 10-12	5	4	5	4	3	
		OC Row 15-18	3	2	3	2	1	
		OD Row 22-28	1	1	1	1	0	
	Galley	G1						10
		G1C						9
		G2/G3						5
	Cargo	1						8
	Holds	2						5
Item	Cabin	L3 / R3		1	2	1		
On	Attendant	L4 / R4		6	6	6		
Index (+)		Aft of G6 & G7		6	7	6		
	Pax	OE	3	3	3	3	2	
	Cabin	Row 29-52						
Item	Galley	G6/G7						9
Off	Cargo	3						3
Index (-)	Holds	4						5
		5						7

A330 B-HWF / G / H / I / J / K

			Crew		Passenger			Weight /
			Tech	C/A	Adult (Male)	Adult (Female)	Child	Deadload
Weight in kg.			77	67	75	65	39	Per 100 kg
Item	Observer Seat (1)		8	7	8	7		
On	Flight Deck							
Index (-)	Observer Seat (2)		8	7	8	7		
	Flight Deck							
	Cabin	L1 / R1		6	7	6		
	Attendant	L1A		6	7	6		
Item	Seat	L2 / R2		3	4	3		
Off	Pax	OA	6	5	5	5	3	
Index (+)	Cabin	Row 10-18						
		OB	2	1	1	1	1	
		Row 22-34						
	Galley	G1						10
		G1C						9
		G2/G3						5
	Cargo	1						8
	Holds	2						5
Item	Cabin	L3 / R3		1	2	1		
On	Attendant	L4 / R4		6	6	6		
Index (+)		Aft of G6 & G7		6	7	6		
	Pax	OC	3	3	3	3	2	
	Cabin	Row 35-57						
Item	Galley	G6/G7						9
Off	Cargo	3						3
Index (-)	Holds	4						5
		5						7

vii. NON-STANDARD FUEL DISTRIBUTION

It is Dragonair policy to use standard fuel loading procedures for all Dragonair aircraft. Non-standard fuel loading takes place when the fuel is abnormally distributed in the fuel tanks.

When non-standard fuel distribution occurs, the Flight Crew shall complete and send the details using the ACARS Fuel Distribution page. If the ACARS is unavailable, a Non-Standard Fuel Order Confirmation Sheet shall be completed and passed to the Traffic Officer at the departure airport for transmission to CLC. Non-Standard Fuel Order Confirmation Sheets are included in the Flight Deck Documents wallet.

The Load Controller will use the Fuel Index Table Per Tank to obtain Laden Index for Take-off (LITOW). A manual Trimsheet will be used to obtain the corrections for TOW MAC and STAB TRIM.

Currently, these figures are calculated manually and annotated in the SI section of the Loadsheet and not included in the main body of the Loadsheet.

Note: *It is imperative that Flight Crew ensure the correct figures are used for Take-off data input into the FMC.*

DRAGONAIR

NON-STANDARD FUEL ORDER CONFIRMATION SHEET
(Use ACARS Fuel Distribution page as primary method unless unavailable.)

Fax to: Airports CLC + 852 2747 5950

Prepared by: _____

Contact Number: _____

FLIGHT DETAILS

KA _____ DATE: _____ REG: B-_____ ROUTE:_____/_____

AIRBUS A320/A321/A330		
TANK	**USABLE FUEL (KG)**	**UNUSABLE FUEL (KG)**
L. OUTER		
L. INR		
CENTRE		
R. INR		
R. OUTER		
TRIM		

Document No: AHQ/OPS 102KA
Issue Date: March 2011

Fig. 10 - Non-Standard Fuel Order Confirmation Sheet

viii. UNUSABLE FUEL

The following procedure shall be applied when a DDG/MEL item permits dispatch with unusable fuel, e.g. A330 trim or outer tank; A320/A321 centre tank.

After refuelling, the Flight Crew shall note the fuel distribution in each tank and send the details using the ACARS Fuel Distribution page. If the ACARS is unavailable, a Non-Standard Fuel Order Confirmation Sheet shall be completed and passed to the Traffic Officer at the departure airport for transmission to CLC. Non-Standard Fuel Order Confirmation Sheets are included in the Flight Deck Documents wallet.

The Load Controller will use the Fuel Index Table Per Tank to obtain the following figures:

Fuel Index for take-off excluding unusable fuel.

Fuel index of the unusable fuel.

The Load Controller will then:

Adjust the Dry Operating Weight by including the weight of the unusable fuel. The Zero Fuel Weight used therefore becomes the Wet ZFW.

Adjust the Dry Operating Index by including the index of the unusable fuel.

The Take-off Fuel figure excludes unusable fuel.

Calculate the Dry ZFW (Wet ZFW - unusable fuel).

The Load Controller will then complete a manual trim sheet as follows:

Cross out the Fuel Index values on page 2 of the Trim Sheet - these figures must not be used.

The index calculations on page 1 of the Trim Sheet use the Adjusted Dry Operating Index calculated above.

Plot the intersection of the Wet ZFW and Wet LIZFW, where

Wet ZFW = The ZFW calculated above.

Wet LIZFW = LIZFW calculated on page 1 of the trim sheet.

Read the Wet ZFW MAC.

Plot the intersection of the TOW and LITOW, where

TOW = The TOW transferred from the loadsheet.

LITOW = LITOW calculated on page 1 of the trim sheet.

Read the TOW MAC and use this for the STAB TRIM calculation.

If the CLC computer system is not available, plot the intersection of the Dry ZFW and Dry LIZFW, where

Dry ZFW = Wet ZFW minus the weight of the unusable fuel.

Dry LIZFW = Wet LIZFW minus the index of the unusable fuel.

Read the Dry ZFW MAC.

All the above figures must be within their applicable envelopes.

As the above figures are calculated manually, they cannot be included in the main body of the Loadsheet so will be annotated in the SI section instead. Only the ACARS loadsheet is required to be sent to the aircraft, although the supporting paperwork is sent to Line Operations for review and audit purposes at a later date. If ACARS is unavailable, copies of the manual Loadsheet and Trim Sheet will be sent to the aircraft.

Note: *It is imperative that Flight Crew ensure the correct figures are used for Take-off data input into the FMC:*

On the MCDU, go to the INIT B page:

Enter the Dry ZFW and the Dry ZFW MAC.

Enter the total FOB, including unusable fuel.

The FMGC will determine the Actual Gross Weight and C of G.

On the MCDU, go to the FUEL PRED page:

Add the unusable fuel to the FINAL fuel figure.

This will give an accurate EXTRA fuel computation.

e.g.

B-HLB SG 0.785	**Weight**	
Fuel On board	31,400kg	
– Taxi Fuel	500kg	
– Unusable Fuel	2,100kg	(trapped in Trim Tank)
= Usable Take-off Fuel	28,800kg	
Trip Fuel	11,300kg	

From Part A 8.1.7.4.ix:

Usable Take-off Fuel	**Weight**	**Index**
L Inner	11,600kg	-114
R Inner	11,600kg	-114
L Outer	2,800kg	+ 60
R Outer	2,800kg	+ 60
Total	28,800kg	-108

Unusable Fuel	**Weight**	**Index**
Trim Tank	2,100kg	+236

With reference to the example on the preceding page, the required figures are:

Wet ZFW	162,845kg
Wet LIZFW	832
Wet ZFW MAC	27.8%
TOW	191,645kg
LITOW	724
TOW MAC	25.5%
STAB TRIM	4.7
Dry ZFW	160,745kg
Dry LIZFW	596.18
Dry ZFW MAC	22.77%

```
LOADSHEET                       EDNO 01
HKG PVG      KA0802/30           B-HLB
J44Y267            2/12/0       30MAR11

ZFW ACT   160745      MAX 172000
TO FUEL    30900
TOW ACT   191645      MAX 205000
TRIP FUEL  11300
LAW ACT   180345      MAX 182000  L
BALANCE AND SEATING
BW        122138      DOW     125377
BI        596.00      DOI     612.00
LIZFW     596.18      MACZFW   22.77
LITOW     477.03      MACTOW   20.99

DLI       606.49
STAB TO   7.0
0A/44 0B/72 0C/77
T21457.1/2534.2/6946.3/5182.4/6286.5/509
.VAL/13L.XPS/34R.RFL/42P.XPS/42P
PVG J044 Y149  +INF 2
TTL PAX 195         UNDERLOAD    1655
LMC
DEST   SPEC   CL/CPT   +/-   WGT / IDX
.....................................
.....................................
.....................................
.....................................
***** NOTOC REQUIRED: YES *****

CMDR NAME_____________________________PRINT.

SIGN_____________________________________

SI

CHANGES:NON-STANDARD FUEL DISTRIBUTION WITH UNUSABLE FUEL
L. OUTER   2.8   R. OUTER   2.8
L. INNER  11.6   R. INNER  11.6

UNUSABLE FUEL
TRIM 2.1

ZFW ACT: 162845
LIZFW:   832.0
MACZFW:   27.8

LITOW:   724.0
MACTOW:   25.5
STAB TRIM: 4.7

LOADSHEETER/SAMUEL SO/HKG130
```

Fig.11a. ACARS Loadsheet - Unusable Fuel

DRAGONAIR 港龍航空

A330-300 TRIM SHEET
For B-HLB / B-HLC / B-HLE
(J44 Y267)

DOCUMENT	DATE OF ISSUE	REVISION NUMBER
AHQ/OPS/008KA	MAR 2011	0

FLIGHT	KA *802/30*
AIRCRAFT	B - *HLB*
DATE	*30-Mar-11*

COMMANDER	*CAPTAIN'S NAME*
SIGNATURE	*SIGNATURE*

LOADSHEETER	*SAMUEL SO*
LICENCE	*HKG130*
SIGNATURE	*SIGNATURE*

CARGO LOADING INDEX TABLE

WEIGHT (KG)	HOLD 1	HOLD 2	HOLD 3	HOLD 4	HOLD 5
500	-38	-24	+15	+26	+36
1000	-77	-47	+29	+53	+72
1500	-115	-71	+44	+79	+107
2000	-154	-94	+58	+106	+143
2500	-192	-118	+73	+132	+179
3000	-231	-141	+87	+159	+215
3500	-269	-165	+102	+185	+248
4000	-308	-188	+116	+212	MAX 3468
4500	-346	-212	+131	+238	
5000	-384	-236	+146	+265	
5500	-423	-259	+160	+291	
6000	-461	-283	+175	+318	
6500	-500	-306	+189	+344	
7000	-538	-330	+204	+371	
7500	-577	-353	+218	+389	
8000	-584	-377	+233	MAX 7353	
8500	MAX 7601	-400	+247		
9000		-424	+262		
9500		-447	+277		
10000		-471	+291		
10500		-495	+306		
11000		-518	+320		
11500		-542	+325		
12000		-565	MAX 11154		
12500		-589			
13000		-612			
13500		-636			
14000		-659			
14500		-683			
15000		-707			
15260		-719			
		MAX 15260			

PASSENGER LOADING INDEX TABLE

ZONE A		ZONE B		ZONE C	
PAX	INDEX	PAX	INDEX	PAX	INDEX
2	-11	5	-5	5	+19
4	-22	10	-9	10	+38
6	-33	15	-14	15	+58
8	-43	20	-18	20	+77
10	-54	25	-23	25	+96
12	-65	30	-27	30	+115
14	-76	35	-32	35	+135
16	-87	40	-36	40	+154
18	-98	45	-41	45	+173
20	-109	50	-46	50	+192
22	-119	55	-50	55	+211
24	-130	60	-55	60	+231
26	-141	65	-59	65	+250
28	-152	70	-64	70	+269
30	-163	75	-68	75	+288
32	-174	80	-73	80	+307
34	-185	85	-78	85	+327
36	-195	90	-82	90	+346
38	-206	95	-87	95	+365
40	-217	100	-91	100	+384
42	-228	105	-96	105	+404
44	-239	110	-100	110	+423
MAX 44		115	-105	115	+442
		120	-109	120	+461
		125	-114	125	+480
		130	-119	130	+500
		135	-123	131	+503
		136	-124	MAX 131	
		MAX 136			

FOR LIZFW / LITOW

	INDEX TABLE –	INDEX TABLE +
DRY OPERATING INDEX		
HOLD 1 _____ KG		
HOLD 2 _____ KG		
HOLD 3 _____ KG		
HOLD 4 _____ KG		
HOLD 5 _____ KG		
PAX ZONE A _____ PAX		
PAX ZONE B _____ PAX		
PAX ZONE C _____ PAX		
TOTAL INDEX		
↳ –		
LIZFW =		5 9 6
FUEL INDEX (S.G. 0.785KG/L) + / –		
LITOW =		

FOR L.M.C.

	INDEX TABLE
LIZFW	
TOTAL L.M.C. (Traffic Load) + / –	
AMENDED LIZFW =	
FUEL INDEX (S.G. 0.785KG/L) + / –	
TOTAL L.M.C. (Fuel) + / –	
AMENDED LITOW =	

FOR INDIVIDUAL FUEL TANK LOADING

LIZFW + UNUSABLE FUEL	INDEX TABLE –	INDEX TABLE +
LIZFW *596 I.U + 236 I.U*		8 3 2
OUTER TANK (LH) *2800* KG		6 0
OUTER TANK (RH) *2800* KG		6 0
INNER TANK (LH) *11600* KG	1 1 4	
INNER TANK (RH) *11600* KG	1 1 4	
TRIM TANK *0* KG		0
TOTAL INDEX	2 2 8	9 5 2
↳ –		2 2 8
LITOW =		7 2 4

NOTE:
INTERPOLATION MAY BE APPLIED FOR INTERMEDIATE VALUES.
EXTRAPOLATION IS NOT PERMITTED.

TRIM SHEET PART 1 OF 2

Fig.11b. Manual Trim Sheet - Unusable Fuel (page 1)

DRAGONAIR 港龍航空

DOCUMENT	DATE OF ISSUE	REVISION NUMBER
AHQ/OPS/008KA	MAR 2011	0

FLIGHT KA 802/30
AIRCRAFT B - HLB
DATE 30-Mar-11

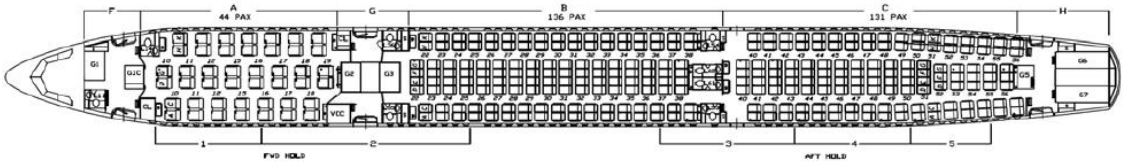
A330-300 TRIM SHEET (J44 Y267)
For B-HLB / B-HLC / B-HLE

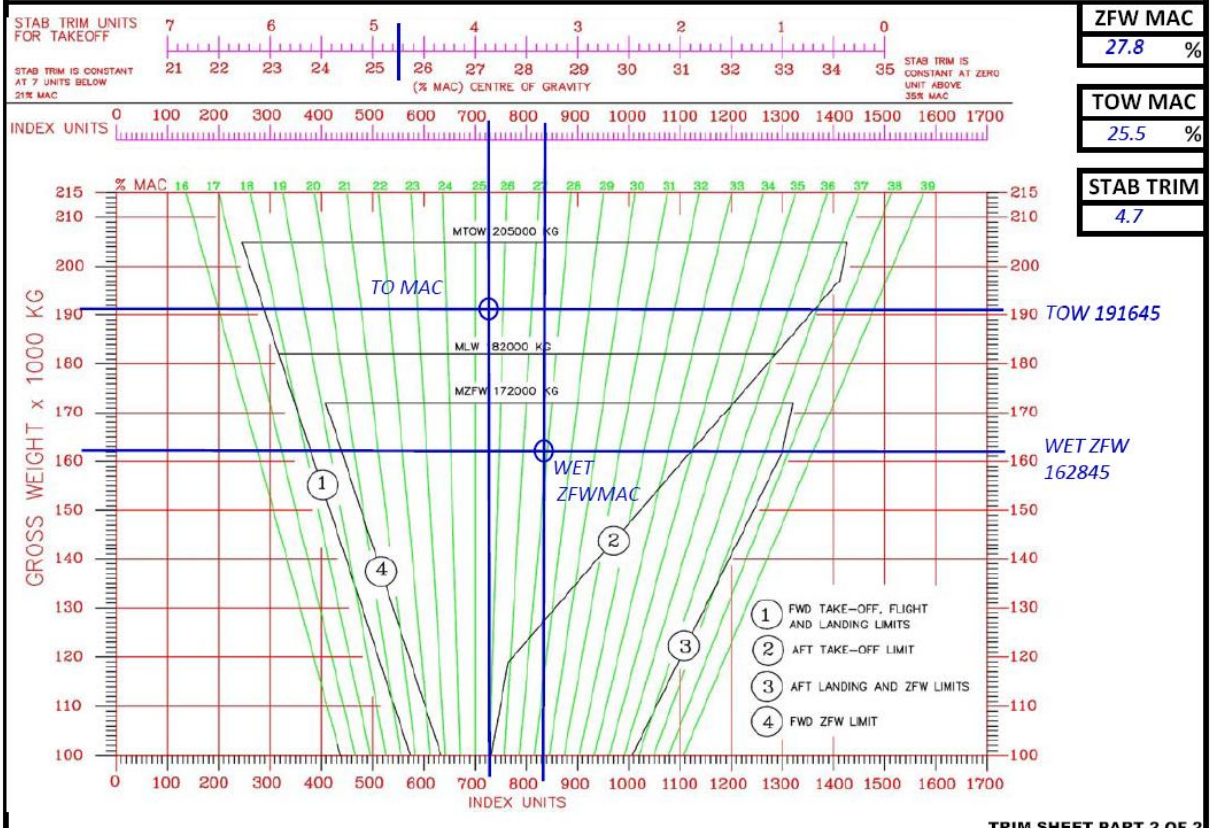
NOTE1: TRIM SHEET PART 2 MUST BE USED IN CONJUNCTION WITH PART 1
NOTE2: INTERPOLATION MAY BE APPLIED FOR INTERMEDIATE VALUES. EXTRAPOLATION IS NOT PERMITTED.

FUEL LOADING INDEX TABLE

TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)	TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)	TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)	TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)	TAKE-OFF FUEL WEIGHT (KG)	INDEX (I.U.)
1000	-10	21500	-34	38600	+71	57000	+6	72500	+77
2000	-21	22000	-38	38800	+93	58000	+5	73000	+83
3000	-32	23000	-48	38900	+105	59000	+6	73500	+89
4000	-42	24000	-57	39000	+104	60000	+6	74000	+95
5000	-53	24500	-61	39500	+100	61000	+8	74100	+96
6000	-63	25000	-66	40000	+96	62000	+10	74200	+97
7000	-74	26000	-75	41000	+88	63000	+12	74300	+98
8000	-84	26500	-80	42000	+80	64000	+16	74400	+99
9000	-94	27000	-84	43000	+73	64500	+18	74500	+107
10000	-77	28000	-93	44000	+65	65000	+20	74600	+119
10500	-67	29000	-102	45000	+58	65500	+22	74700	+130
11000	-58	30000	-110	46000	+51	66000	+25	74800	+142
12000	-37	31000	-119	47000	+44	66500	+28	74900	+153
13000	-15	32000	-127	48000	+37	67000	+30	75000	+165
14000	+10	33000	-136	49000	+31	67500	+34	75100	+176
15000	+30	34000	-144	50000	+26	68000	+37	75200	+188
16000	+19	35000	-152	51000	+21	69000	+44	75300	+200
17000	+10	36000	-161	52000	+17	69500	+48	75500	+223
18000	0	36500	-165	53000	+14	70000	+52	76000	+282
19000	-10	37000	-109	54000	+11	71000	+62	76840	+357
20000	-20	38000	+3	55000	+8	71500	+67		
21000	-29	38500	+59	56000	+7	72000	+72		

NOTE:
(1) Fuel density S.G. 0.785KG/L





ZFW MAC 27.8 %
TOW MAC 25.5 %
STAB TRIM 4.7

TRIM SHEET PART 2 OF 2

Fig.11c. Manual Trim Sheet - Unusable Fuel (page 2)

ix. FUEL INDEX TABLE PER TANK

Applicability: All A320 aircraft

Inner Tank - Per side

Weight kg	Index units
200	-0.2
400	-0.4
600	-0.7
800	-0.9
1000	-1.1
1200	-1.3
1400	-1.5
1600	-1.7
1800	-1.9
2000	-2.1
2200	-2.2
2400	-2.4
2600	-2.5
2800	-2.7
3000	-2.8
3200	-3.0
3400	-3.1
3600	-3.2
3800	-3.3
4000	-3.3
4200	-3.3
4400	-3.3
4600	-3.2
4800	-3.1
5000	-2.9
5200	-2.7
5436	-2.4

Outer Tank - Per side

Weight kg	Index units
200	+0.4
400	+0.9
600	+1.4
691	+1.7

Centre Tank

Weight kg	Index units
200	-0.2
400	-0.4
600	-0.7
800	-0.9
1000	-1.2
1200	-1.4
1400	-1.7
1600	-2.0
1800	-2.3
2000	-2.7
2200	-3.0
2400	-3.3
2600	-3.6
2800	-3.9
3000	-4.2
3200	-4.5
3400	-4.8
3600	-5.1
3800	-5.4
4000	-5.8
4200	-6.1
4400	-6.4
4600	-6.7
4800	-7.0
5000	-7.3
5200	-7.6
5400	-7.9
5600	-8.2
5800	-8.6
6000	-8.9
6200	-9.0
6400	-9.6
6476	-9.7

* If the weight falls in between two figures on the table, the next higher weight should be used.

e.g. on the Inner Tank table, if the fuel weight is 2,450 kg then use index -2.5.

Applicability: All A321 aircraft

Wing Tank - Per side

Weight kg	Index units
200	-0.2
400	-0.4
600	-0.7
800	-0.9
1000	-1.1
1200	-1.3
1400	-1.5
1600	-1.7
1800	-1.9
2000	-2.1
2200	-2.3
2400	-2.4
2600	-2.6
2800	-2.7
3000	-2.9
3200	-3.0
3400	-3.1
3600	-3.2
3800	-3.3
4000	-3.4
4200	-3.4
4400	-3.4
4600	-3.3
4800	-3.2
5000	-3.0
5200	-2.8
5400	-2.6
5600	-2.3
5800	-2.0
6080	-1.4

Centre Tank

Weight kg	Index units
200	-0.2
400	-0.4
600	-0.7
800	-1.0
1000	-1.3
1200	-1.5
1400	-1.8
1600	-2.1
1800	-2.4
2000	-2.8
2200	-3.1
2400	-3.4
2600	-3.7
2800	-4.0
3000	-4.3
3200	-4.6
3400	-4.9
3600	-5.3
3800	-5.6
4000	-5.9
4200	-6.2
4400	-6.5
4600	-6.8
4800	-7.1
5000	-7.4
5200	-7.7
5400	-8.1
5600	-8.4
5800	-8.7
6000	-9.0
6200	-9.3
6445	-9.8

* If the weight falls in between two figures on the table, the next higher weight should be used.

e.g. on the Wing Tank table, if the fuel weight is 2,450 kg then use index -2.6.

Applicability: B-HLB, B-HLC, B-HLE, B-HLL

Inner Tank - Per side

Weight kg	Index units
1000	-10
2000	-21
3000	-32
4000	-42
5000	-52
6000	-62
7000	-72
8000	-81
9000	-90
10000	-99
11000	-108
12000	-117
13000	-126
14000	-134
15000	-142
16000	-151
17000	-158
18000	-166
19000	-173
20000	-180
21000	-185
22000	-190
23000	-193
24000	-194
25000	-195
26000	-195
27000	-193
28000	-189
29000	-185
30000	-179
31000	-171
32000	-161
33000	-149
33122	-148

* If the weight falls in between two figures on the table, the next higher weight should be used.

e.g. on the Inner Tank table, if the fuel weight is 16,001 kg then use index -158.

Outer Tank - Per side

Weight kg	Index units
200	+3
400	+7
600	+11
800	+14
1000	+18
1200	+22
1400	+26
1600	+31
1800	+35
2000	+40
2200	+45
2400	+50
2600	+55
2800	+60

Trim Tank

Weight kg	Index units
200	+22
400	+44
600	+67
800	+89
1000	+112
1200	+134
1400	+156
1600	+179
1800	+202
2000	+224
2200	+247
2400	+270
2600	+292
2800	+315
3000	+338
3200	+362
3400	+385
3600	+409
3800	+432
4000	+456
4200	+480
4400	+505
4600	+529
4805	+554

Applicability: B-HYB, B-HYF

Inner Tank - Per side

Weight	Index
kg	units
1000	-10
2000	-21
3000	-32
4000	-42
5000	-52
6000	-62
7000	-72
8000	-81
9000	-90
10000	-100
11000	-108
12000	-117
13000	-126
14000	-134
15000	-142
16000	-151
17000	-158
18000	-166
19000	-173
20000	-180
21000	-185
22000	-190
23000	-193
24000	-194
25000	-195
26000	-195
27000	-193
28000	-189
29000	-185
30000	-179
31000	-171
32000	-161
33000	-149
33122	-148

* If the weight falls in between two figures on the table, the next higher weight should be used.

e.g. on the Inner Tank table, if the fuel weight is 16,001 kg then use index -158.

Outer Tank - Per side

Weight	Index
kg	units
200	+3
400	+7
600	+11
800	+14
1000	+18
1200	+22
1400	+26
1600	+31
1800	+35
2000	+40
2200	+45
2400	+50
2600	+55
2800	+60
2895	+63

Trim Tank

Weight	Index
kg	units
200	+22
400	+44
600	+67
800	+89
1000	+112
1200	+134
1400	+156
1600	+179
1800	+202
2000	+224
2200	+247
2400	+270
2600	+292
2800	+315
3000	+338
3200	+362
3400	+385
3600	+409
3800	+432
4000	+456
4200	+480
4400	+505
4600	+529
4800	+554
***4891**	+565

*B-HYF only

Applicability: B-HYG/I/J/Q, B-HWF/G/H/I/J/K

Inner Tank - Per side

Weight kg	Index units
1000	-10
2000	-21
3000	-32
4000	-42
5000	-52
6000	-62
7000	-72
8000	-81
9000	-90
10000	-100
11000	-108
12000	-117
13000	-126
14000	-134
15000	-142
16000	-151
17000	-158
18000	-166
19000	-173
20000	-180
21000	-185
22000	-190
23000	-193
24000	-194
25000	-195
26000	-193
27000	-193
28000	-189
29000	-185
30000	-179
31000	-171
32000	-161
32970	-150

* If the weight falls in between two figures on the table, the next higher weight should be used.

e.g. on the Inner Tank table, if the fuel weight is 16,001 kg then use index -158.

Outer Tank - Per side

Weight kg	Index units
200	+3
400	+7
600	+11
800	+14
1000	+18
1200	+22
1400	+26
1600	+31
1800	+35
2000	+40
2200	+45
2400	+50
2600	+55
2800	+60
2895	+63

Trim Tank

Weight kg	Index units
200	+22
400	+44
600	+67
800	+89
1000	+112
1200	+134
1400	+156
1600	+179
1800	+202
2000	+224
2200	+247
2400	+270
2600	+292
2800	+315
3000	+338
3200	+362
3400	+385
3600	+409
3800	+432
4000	+456
4200	+480
4400	+505
4600	+529
4800	+554
4891	+565

x. LOADSHEET HANDLING FOLLOWING A DIVERSION

General

If CLC cannot be contacted, a "No Change to Traffic Load" loadsheet must be prepared.

This form is stored in the Spare Documents Wallet and is used in case of diversion or an en-route technical stop when no change is made to the traffic load.

The form will only be required if a new ACARS/CUPAC Loadsheet cannot be obtained. This can occur during a major disruption (e.g. severe weather affecting Hong Kong) when multiple aircraft are diverting and Load Control is unable to support the diverted flights. Flight Crew shall be familiar with the completion of the form.

Although the No Change Loadsheet is normally completed by the Flight Crew, Dragonair approved Loadsheet Officers can complete the form if requested to do so by the Commander/PIC.

Method of Completion

Transcribe the following data from the previous sector's loadsheet:

1. ZFW
2. ZFW Index (LIZFW)
3. Number of passengers

Insert the following data for the next sector:

4. Actual ZFW (no change permitted)
5. Take-off Fuel
6. Add these together to give the new Take-off Weight
7. Insert the new Trip fuel figure
8. Calculate the new Landing Weight by subtracting the Trip Fuel from the new Take-off Weight
9. Determine the new Take-off Fuel Index using a manual Trim Sheet
10. Add the Take-off Fuel Index to the ZFW Index to calculate the Take-off Index
11. Use the manual Trim Sheet to calculate the new TOW MAC and STAB TRIM

The Commander/PIC shall countersign the document if completed by a Loadsheet Officer.

DRAGONAIR

Distrubution: ORIGINAL - Departure Station 1st COPY - Captain 2nd COPY - Next Station		**LOADSHEET - NO CHANGE TO TRAFFIC LOAD**	
FLIGHT NO/DATE KA *802/30Mar11*		Registration *B-HLB*	This Form Completed at *NKG*
From *NKG*	To *PVG*		

		Amended Take-off Weight Data	
ZFW From Previous Loadsheet	(1) *160745*	ZFW → MAX *172000*	*160745* (4)
ZFW INDEX From Previous Loadsheet	(2) *596*	TAKE-OFF FUEL +	*12000* (5)
AMENDED TAKE-OFF FUEL INDEX	(9) *-37*	TAKE-OFF WEIGHT = REG *184000*	*172745* (6)
AMENDED TAKE-OFF INDEX	(10) *559*	TRIP FUEL -	*8000* (7)
TOW MAC	(11) *22.3*	LANDING WEIGHT = MAX *182000*	*164745* (8)
STAB TRIM	*6.3*	PAX *195* (3)	

I hereby certify that no change to Traffic Load has taken place at this station and that all Traffic Load remains unchanged from the previous departure station.

COMMANDER *Captain's Signature*

Document No: AHQ/OPS/104KA
Date of Issue: March 2011

Fig. 12 "No Change to Traffic Load" Loadsheet

xi. CHECKING THE LOADSHEET / TRIM SHEET

Loadsheet

The Flight Crew shall check the following details of the loadsheet:

a. Aircraft Registration

b. Number of Crew

c. Basic Weight

d. Basic Index

e. Take-off Fuel

f. Trip Fuel

The following shall be checked to ensure they are within the prescribed limits:

a. Zero Fuel Weight

b. Take-off Weight

c. Landing Weight

d. Stabiliser Trim

For ACARS/CUPAC loadsheet, the following should be checked and if necessary compared to the main body of the Loadsheet:

a. Supplemental Information

- Last Minute Change
- Non-standard fuel loading / unusable fuel

For a Manual Loadsheet:

a. Cross-check that the addition of the Underload to the actual Take-off Weight equals the Regulated Take-off Weight (the lower of a, b or c in Section 2 of the Loadsheet).

b. Check the Manual Trim Sheet and verify the following totals have been correctly entered in Section 3 - LIZFW, TOW MAC, STAB TRIM and ZFW MAC.

c. Ensure that LMCs are within limits.

Manual Trim Sheet

a. Dry Operating Index, from manual Loadsheet.

b. Laden Index ZFW (LIZFW) - check the arithmetic calculations used to derive this figure.

c. Check that the Standard Fuel Index has been correctly derived from the Fuel Index Table; add to the LIZFW and obtain the Laden Index Take-off (LITOW).

d. Draw two horizontal lines using ZFW and TOW on the C of G graphic.

e. Draw two vertical lines using the LIZFW and LITOW derived in steps b and c above.

f. Circle the intersection of the vertical lines with the horizontal reference lines for the appropriate weight. Ensure the Index figures are both within the C of G Envelope.

g Extract the %MAC figures from the top of the C of G Envelope graph.

h. Obtain the STAB TRIM figure by entering the STAB TRIM UNIT FOR TAKEOFF ruler using the TOW MAC value.

Note: *The percentage MAC figure increases in value from left to right, whilst the STAB TRIM decreases in value. Ensure the numerical value is correct and cross-checked.*

i. Verify the values for ZFW MAC, TOW MAC and STAB TRIM have been correctly transferred to the Manual Loadsheet.

xii. CERTIFICATION

Acknowledgement or signing of the Loadsheet is a legal requirement and shall be completed prior to take-off.

ACARS Loadsheet:

At ports supporting CLC, the Commander/PIC shall input the EDNO in the ACARS LOADSHEET ACK page and send.

A signed copy of the final Loadsheet edition shall be placed in the Flight Documents Envelope.

CUPAC / Manual Loadsheet:

The Commander/PIC shall verify and sign both copies of the Loadsheet.

The Commander/PIC shall return one signed copy of the Loadsheet to the Traffic staff for retention at the departure airport and the other signed copy shall be placed inside the Flight Documents Envelope.

Manual Trim Sheet:

The Commander/PIC shall verify and sign both copies of the Trim Sheet.

The Commander/PIC shall return one signed copy of the Trim Sheet to the Traffic staff for retention at the departure airport and the other signed copy shall be placed inside the Flight Documents Envelope.

xiii. OPERATIONAL HALT PROCEDURE

CLC/Cargo shall inform IOC whenever a significant loading variance has been determined following the acceptance by the Flight Crew of the final Loadsheet Edition. The aim is to prevent an aircraft from commencing takeoff with RTOW calculations based on incorrect Loadsheet data.

If the loading variance exceeds the Maximum ZFW, Structural Limitation, or exceeds the Approved LMC limits and the flight is still on the ground preparing for takeoff, IOC will initiate the Operational Halt Procedure. The procedure will not be used for minor changes.

IOC shall immediately send the following ACARS message to the aircraft: "DO NOT TAKEOFF – LOADSHEET DATA ERROR". IOC shall telephone the Departure Station or ATC to stop the takeoff until the data is verified and confirmed by a new Loadsheet.

xiv. SPECIAL LOAD

Carriage of Livestock

Livestock, other than cold-blooded animals (AVC) and live fish (AVP/PES), shall not be carried as cargo in Dragonair A320/A321 aircraft.

The bulk cargo hold (compartment 5) of the A330 is designed for the transport of bulk freight / non-unitised load and is equipped with a ventilation system for the transport of livestock.

For transport in this cargo hold, live animals should be placed in suitable cages or pet kennels. The animal containers and crates should be tied down in order to be

secured against any movement at take-off, landing and during flight.

8.1.8 FLIGHT PLANS

8.1.8.1 GENERAL

All flights will be filed and conducted under Instrument Flight Rules (IFR).

IFR flight plans must not be cancelled.

A destination alternate airport is to be filed for all flights except where the destination airport is isolated. An isolated destination airport is defined as a destination airport where an alternate airport is not available within 1 hour 45 minutes flight time from the destination.

8.1.8.2 OPERATIONAL FLIGHT PLAN

NAVIGATION LOGS AND FUEL PLANNING

AIRPATH Computer Flight Plans (CFP) plans are used for all flights. These plans are to be used for flight planning and in-flight progress recording. In the event of any discrepancy between the CFP, FMS data or the en-route Jeppesen chart, the definitive reference for navigation shall be the CFP.

If a CFP is not available and a back-up plan cannot be obtained from Flight Dispatch, follow the instructions in FCOM/PER-FPL Flight Planning to calculate ramp fuel and time to destination. In the aircraft a flight plan may be available using the ACARS AOC FLT PLN REQ page.

GENERAL

Dispatch Message

The Commander will sign the Dispatch Message before every flight. It is retained as a record of the flight until the flight is completed and is left behind at departure as follows;

For flights at Hong Kong – with dispatch staff or ramp coordinator (for same day turnaround flights return sector copy shall be carried to outport. Also applicable to three sector flights).

For flights at outports – with outport representative or ground handling agent.

In a situation where the Dispatch Message is unavailable crews may dispatch normally and annotate the CAR for the attention of MLO.

Description

Refer to the example on the following page:

A Fuel uplift policy for the sector may be CAT A, B or C.

B Maximum weights for the aircraft.

C Summary of fuel data from page one of the CFP. Asterisks (if any) have no relevance.

D Planned weights used to construct the CFP.

E Filed ATC flight plan.

F These figures shall be entered by the crew for departures from ports where Centralised Load Control is not in operation or when ACARS is inoperative. The Max ZFW should be entered by the crew at any time the ZFW is limiting. It is used by Load Control to optimise payload.

G Special notes for crew information (if any).

H The Dispatch Message must be signed by the Commander for all flights.

DISPATCH MESSAGE

HDA 060 WBKK-VHHH 20MAR A320-232C BHSK PLN001 REF/3K157201
RTE 001 CAPT/ARNOLD MS DISPATCHER/ADAM LAU

DISPATCHER NOTES TO CREW

FUEL UPLIFT POLICY FOR THIS SECTOR IS CAT A. (A)

MZFW	MAX RAMP WT	MTOW	MLW
061000	075900	075500	064500

(B)

FUEL DATA

PLANNED TAXI*	200	PLANNED ZFW	52700	
PLANNED TRIP FUEL	6000	PLANNED RAMP WT	62100	(D)
(C) FUEL REQD /FR/	8800	PLANNED LNDG WT	55800	
TOTAL FUEL*.....	9400	ENDURANCE	03:52	
FLT TIME*	02:30			

ATC PLAN FOR FILING

(FPL-HDA060-IS
-A320/M-SHPDIRWYZ/S
-WBKK0405
(E) -N0452F380 DCT NODIN M522 VINIK M754 AKOTA A583 SABNO
-VHHH0230 ZGSZ
-EET/WSJC0025 RPHI0028 VHHK0151
REG/BHSK SEL/BDHS DOF/120320
NAV/RNAV1 RNAV5
NAV/RNP4 RNP5 TCAS II 7.0)
-E/0352 P/0 R/UVE J/L A/WHITE WITH RED DRAGON ON BOTH ENGINES
AND TAIL AND FUSELAGE C/ARNOLD MS

RTOW*	.....	.....	(F)
MAX ZFW*	.....	.....	
TRIP FUEL*	.....	.....	
TAKEOFF FUEL*	.....	.....	

(G) NOTES: .....
.....

COMMANDERS ACCEPTANCE ..... (H)

COMPUTER FLIGHT PLANS (CFP)

The CFP is the primary working document aboard the aircraft and is to be used for recording the details and progress of the flight. The Fuel Progress Log of the CFP shall be used in flight as a record of fuel used and compared to the fuel available.

General Description

Flight Dispatch is located at HKG and manned H24.

The CFP program has capability to produce the following types of flight plan:

a. Minimum Time

b. Minimum Fuel

c. Preferred Flight Level

d. Preferred Speed

Enroute wind and temperature forecast data is entered into the program four times a day from the UK Meteorological Office at Bracknell, England, via the Hong Kong Meteorological Office (HKO). The forecasts used are for various flight levels at 06, 12, 18, 24, 30 and 36 hours after each observation time, and apply from three hours before to three hours after each forecast time. Thus the first forecast starts to apply three hours after the observation time it was based on.

Capability also exists to produce flight plans based on statistical weather.

Choice of airway routings is not restricted. The program is capable of least time tracking from a choice of airway routes, or over an oceanic area, or a combination of both.

The program flight plans backwards, using the aircraft ZFW as the starting point of the computations and finishing with ramp weight.

Flight Dispatch produces all flight plans which are sent to the respective outport Flight Dispatch Office or agent, if necessary.

Taxi-Out, Take-Off, Departure Manoeuvre and Climb

Fuel for taxi is included in the CFP.

A departure manoeuvre time and fuel allowance is included in the CFP. Fuel for this time is included in the enroute burn off fuel amount.

A TOC position is shown except when the TOC is within 1.2 minutes of a reporting point.

To calculate TOC the CFP program uses a climb setting equivalent to derate 1 thrust (for A330), increasing to climb thrust when predicted rate of climb reduces to 500 FPM.

Cruise

For the cruise technique selected, the computer examines all possible speed and altitude combinations to select the optimum fuel per ground nautical mile. Wind and temperature are taken into account in this process and the program examines each altitude in turn using the forecast component at that altitude. Wind component effect on speed is therefore accounted for. The same technique is used for determining the best step climb point. The program also examines each cruise point for thrust limits and buffet limits.

The CFP is such that it is not possible to indicate at precisely which point, between two waypoints, a step climb is to be initiated. It is the pilot's responsibility to check in the Operations Manual or FMC that at the top of the step climb the allowable weight at that altitude or the engine thrust limits are not exceeded.

A performance degradation/improvement factor can be programmed into the computer so that cruise fuel is changed by a selected percentage. The performance change is input by individual aircraft. Crews will be informed on the CFP of the amount of performance degradation.

Descent And Destination Manoeuvre

Descent data assumes a straight-in approach and landing at the last waypoint. TOD is shown on the CFP when its position exceeds 5NM from a waypoint. Destination manoeuvring accounts for the additional distance from the last CFP waypoint to the destination and includes the STAR where applicable. A distance and time allowance is shown on the CFP. Fuel allowance for this distance and time is included in the enroute burn off. The destination manoeuvring distance is not included in the descent distance therefore the actual descent point should continue to be determined by present procedures.

Alternate

Fuel to the alternate is calculated from missed approach point to the alternate airport via the missed approach routing, airway routing, STAR, and instrument approach to landing. Where an alternate is very close to destination and no formal airway route is available, such as Macau to Hong Kong, the alternate distance is built up on the CFP. This is intended to make the distance more realistic and reflect what the aircraft will actually fly during a diversion.

In-Flight Use Of Navigation Plan

Record PLAN ETA for each waypoint. Record ATA, COR (Corrected) ETA and the FL for each waypoint from TOC to the last waypoint before TOD (COR ETA = ATA + TIME). Record any other information considered relevant, e.g. direct tracking, route deviations / offsets, frequencies, etc.

In-Flight Use Of CFP − Oceanic Navigation

Whenever flight is required through an oceanic navigation area, the CFP will indicate the optimum route to follow within a defined area.

Use Of Fuel Progress Log

Before start record the total fuel on the upper line of the ACTUAL FUEL column.

During cruise record the actual fuel remaining against the relevant waypoint at least once every hour. Refer to FCTM Chapter 5.

It is permissible to log any other information considered relevant e.g. actual elapsed time, actual kg/gnm.

Backup CFP And Flight Diversions

For unscheduled system outages, or communication failure to outports, copies of the last five issued CFPs will be available to crews.

Diverted flights can request plans through IOC.

Engine Inoperative CFP

In order to support the decision making process for 1-engine inoperative flight beyond the nearest suitable ERA, an ENGINE OUT CFP may be requested using the ACARS Flight Plan prompt or via SATCOM voice communication to Flight Dispatch. Crew should endeavour to provide Flight Dispatch with basic details of the requested route and the aircraft ZFW.

These plans are generated using the ZFW provided to Flight Dispatch and current wind data. Suitable ERAs are selected and associated Critical Points calculated. Mandatory fuel requirements are determined in exactly the same way as on the

normal plan.

As the plan makes no fuel allowance for an alternate, the fuel calculation assumes that In-Flight Reduction of Normal Fuel required can be applied. Crews must ensure that subsequent flight is in compliance with the Company Policy guidelines for flight beyond the nearest suitable airport.

Crew Liaison With Flight Dispatch

CFP requests are initiated by HKG Flight Dispatch. If a Capt requires an additional CFP (change of ZFW, lower flight level, etc) the request must be made to HKG Flight Dispatch Office who will process the request.

COMPUTER FLIGHT PLAN TERMS

Non-ETOPS

Only non self-explanatory terms are given:

1. COST INDEX:

Calculated by Flight Operations Department and is based primarily on fuel cost.

2. MET OBS:

Date-time of observations from which en route wind/temperature forecasts were produced. Forecasts are valid for a 36 hour period commencing 3 hours after the observation time.

3. AIRPATH ROUTE Number:

Defines route between two airports. Below the Route No. is the Company Route Code. If a route is not stored then the Route Code will end with two dashes, e.g. BKIHKG--.

4. The SCHED departure/arrival times are the scheduled times for that flight as annotated on the CFP. In the event of a significant delay to a scheduled flight, an estimate of the delayed departure time will be issued by IOC. These times will be shown as ETD on the line below the schedule time.

Delay reports should always be based on the Scheduled times.

Delayed ETD times, when published by IOC, will be used by the Airpath system to re-reference the met data for issue of an updated CFP. A new CFP is not required for a delayed flight but is recommended for delays of greater than 3 hours for a long-haul flight. In such cases an updated CFP will provide more accurate en-route wind data for the sector.

5. IDLE/PERF FACTORS

These are the performance correction figures for the respective aircraft. These figures are updated by CX Operations Engineering Section on a regular basis and passed to the Dispatch staff for update of the Airpath system. The figures shown on the CFP are, therefore, the most up to date. The CFP figures should correlate directly to those shown on the MCDU A/C STATUS page.

When the figures are revised they will be highlighted on the CFP by Dispatch staff. The crew should update the FMS data accordingly using FCOM/DSC-22_20-40-30 Perf Factor – Procedure to modify the Perf Factor (On Ground Only).

6. TAXI/TRIP FUEL:

Refer to PART A 8.1.6 – Fuel and Oil Requirement

7. CONTINGENCY / MANDATORY / ALTN / RESERVE / FUEL REQD / REC EXTRA:

Refer to PART A 8.1.6 – Fuel and Oil Requirement

8. TOTAL DIST:

This represents the total mileage on the CFP. This figure may be used to check the trip fuel for gross error.

9. CORRECTIONS TO TRIP FUEL (CORR LNDG and CORR RAMP)

These figures are provided to allow the TRIP FUEL to be adjusted for changes in Take-off weight, whatever the reason for that change. The CORR LNDG figure should be used whenever the TOTAL FUEL figure is adjusted as it contains a fuel allowance required to carry that extra fuel.

If the TRIP FUEL is adjusted by using fuel that is already on board, as REC EXTRA or CONT FUEL, the CORR RAMP figure should be used as the allowance for carrying this fuel is already included as part of the TRIP FUEL.

Examples:

a. The ZFW has increased (or decreased) and you wish to correct the TRIP FUEL. If you decide NOT to adjust the TOTAL FUEL but use some of the contingency figure, as you may do on an ULH sector, or some of the rec extra, then the correction should be CORR RAMP X Weight difference for each 1,000kg.

b. The ZFW has changed and you require to uplift extra fuel, hence changing the TOTAL FUEL figure. In this case the CORR LNDG figure should be used as you also require to add an allowance for the extra fuel uplift which will further increase the TOW.

c. Destination weather requires that extra fuel should be loaded. In this case the CORR LDNG figure should be used as it includes the allowance for carrying that Fuel. To arrive with an extra 3,000kg at destination, the correction to TOTAL FUEL should be 3,000kg + 3 X CORR LNDG. The correction to TRIP FUEL in this case is 3 X CORR LNDG.

In summary if you change the TOTAL FUEL figure on board then any correction to TRIP FUEL should be CORR LNDG. If you simply change the TRIP FUEL by using some of the fuel that is already loaded, eg by reduction in contingency then the correction to TRIP FUEL should be CORR RAMP.

When the correction to the TRIP FUEL exceeds (200){200}[300] kg the Trip Fuel should be amended.

10. RAMP WT:

Sum of TOTAL FUEL and ZFW.

11. FINAL FUEL ORDERED:

Incorporates changes made to the CFP total fuel, and is transcribed from the ‘Refuel Record Form’.

12. MAINTENANCE LOG FUEL:

Transcribed from the Aircraft Maintenance Log.

13. REASON:

Provides amplification for requirement to change CFP total fuel. Circle the change reason, and add text if required.

14. FUEL SUMMARIES:

There are five fuel summaries but not all of them will be shown. Fleet Office

decides the kind of fuel summaries shown on the CFP.

15. This is the next available ATC FL below the planned FL (Optimum or Fixed). When the planned FL is below FL 300, step below FL will still show original FL (not applicable when Fixed FL is planned).

16. ALTERNATE SUMMARIES:

Listed in order of priority, usually based on distance and may not meet planning minima.

17. A unique serial number prepared for a flight on a given day. The last two digits represent the sequence number of the plan for that flight. i.e.: 02 would be the second plan prepared on this day for this route. All parts of the plan should contain the same serial number.

18. MINIMA FOR FILING AS ALTERNATE:

Used by Flight Despatch for planning purposes. Refer to Part A 8.1.4.2 – Pre-Dispatch.

19. SECTOR FUEL SUMMARY:

This section contains all fuel calculations for one engine inoperative critical point, depressurisation critical point and PNR information back to nominated airfield.

20. FUEL RQD:

Fuel Required comprises fuel from departure to the CPt, including any contingency fuel used in accordance with the main plan burnoff, descent to the depressurised or engine inoperative stabilising altitude, fuel to cruise to the ERA with 5% contingency, hold clean for 30 minutes at 1,500ft and carry out an approach and landing.

The FUEL RQD figure includes taxi fuel and so may be compared directly with the FUEL RQD/FR/ on page one of the CFP.

AIRPATH will build up mandatory fuel if the FUEL RQD/FR/ is not adequate for the most limiting CPt enroute. The FUEL RQD figure for the most limiting CPt will, therefore, never be greater than that shown under FUEL RQD/FR/ on page one of the CFP.

21. DIV FUEL:

Diversion Fuel is the fuel required from the CPt to cruise to the ERA with 5% contingency, hold clean for 30 minutes at 1,500ft and carry out an approach and landing.

22. PNR (not shown in the example overleaf):

The one engine inoperative PNR calculates a position based on the following premise: fuel will be sufficient at the PNR to allow for one engine inoperative flight back to the nominated airport on a Great Circle track, including contingency, plus 30 minutes holding at that airport. An allowance is included for the turn onto the reciprocal track. From any point beyond that PNR, sufficient fuel will remain to allow flight onward to destination or a nominated ERA.

23. ICAO ATS PLAN:

See Vol 5 ATC.

24. Space to note ATC clearance/MET.

Note: Should a printout of D-ATIS or PDC be available, there is no requirement to transcribe the data onto the CFP. In this case, the printout must be placed in the Flight Documents Envelope.

25. ROUTE:

Airway routes.

26. NAVAIDS:

Primary aid or Radial/DME reference. (Not always available on non-standard FLT PLAN.)

Note: The blank entry spaces ../.. on the left hand side of the Navigation Plan pages are not required to be filled.

27. MRA:

Jeppesen Grid MORA, increased by 1,000ft to satisfy CAD requirements. It is correct for wind speeds up to 30kt. For wind speeds up to 50kt, add an extra 500ft; for wind speeds up to 70kt add an extra 1,000ft ; for wind speeds in excess of 70kt, add an extra 1,500ft.

28. WIND:

28/005 means 280°/5kt. This is the mean wind between the last waypoint and the present waypoint.

29. TIME:

Elapsed time between waypoints.

30. FIR:

FIR boundary situated either on the waypoint shown or between this waypoint and the previous waypoint.

31. ACC TIME:

Accumulated elapsed time.

32. ACTUAL FUEL:

This column is for recording the fuel remaining at waypoints. It is the lesser of:

a. The ECAM FOB (item 39); and

b. Departure Fuel minus Fuel Used (item 41).

33. FR X CONT X MAND

Flight plan fuel required excluding contingency and mandatory fuel.

34. CONT MAND EXTRA:

This blank column is for recording the differences between items 32 and 33. The amount will become contingency, including mandatory and extra.

35. PLAN CONT:

This column indicates the required plan contingency fuel from each waypoint to destination.

36. DIST TO GO:

Distance to go to destination.

37. PLAN KGS/HR:

Planned hourly fuel flow based on mid-weight between two sector points.

38. PLAN KGS/GNM:

Planned kilograms per ground mile for each sector.

39. ECAM FOB:

Use this column to insert the ECAM Fuel on Board.

40. USED:

Use this column to insert the ECAM Fuel Used.

41. DEP FUEL-USED:

This is the sum of DEPARTURE FUEL (Ramp Fuel) minus FUEL USED.

42. Descent, approach and landing fuel.

43. Destination manoeuvring fuel.

44. MIN DIV FUEL:

Minimum diversion fuel which is the sum of alternate fuel and reserve fuel.

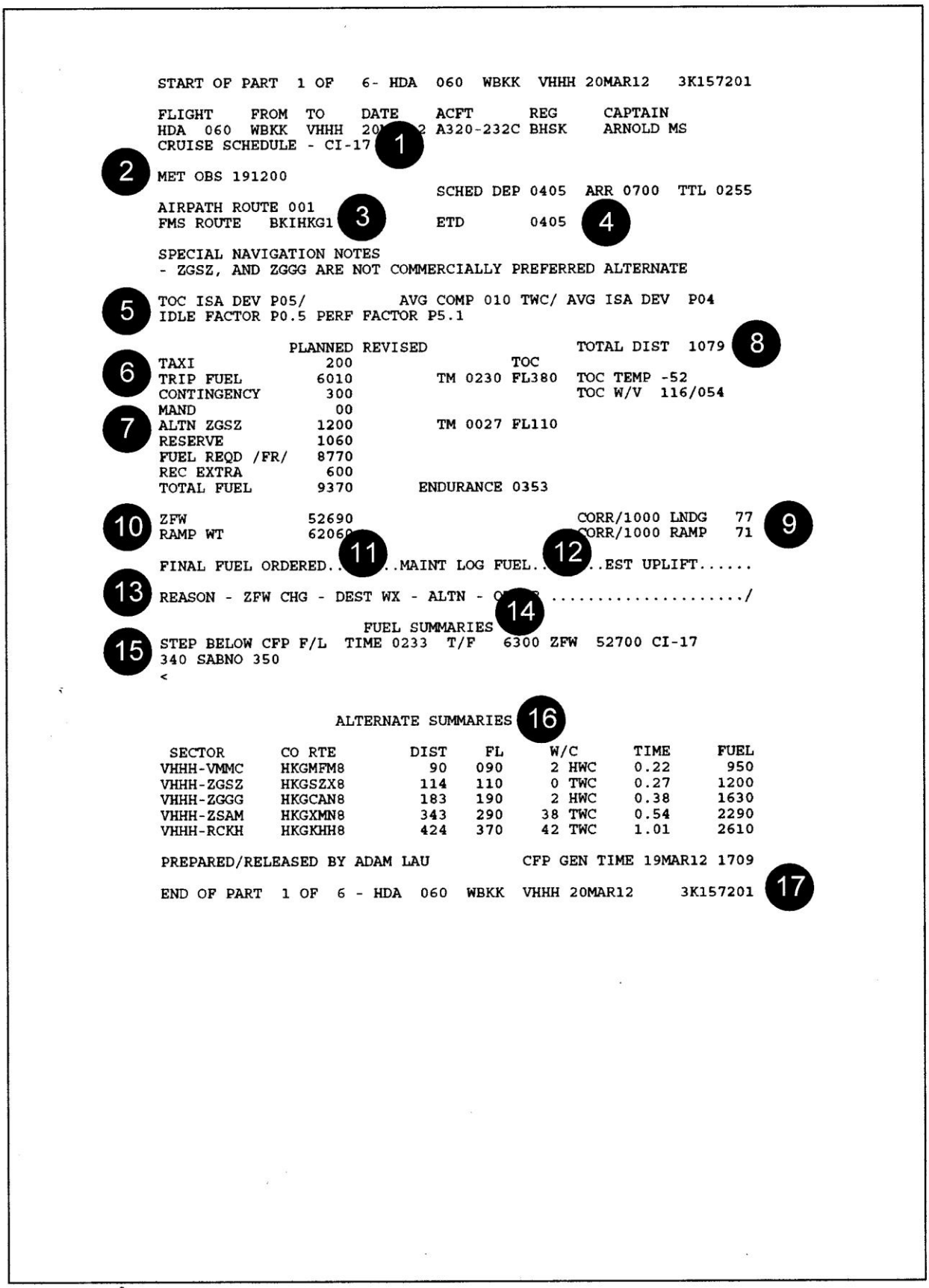
45. Spot wind and temperature at FL250, FL310, FL350, FL410, used for data entry in FMS.

For FMS climb wind (no History Wind available) use FL100 and FL250 spot winds at departure waypoint or any appropriate climb waypoints.

46. Spot wind for FL100. Used for depressurised flight planning. Note no temperature data is provided at FL100.

47. DESC WIND:

Forecast spot winds for four levels on descent profile.



```
START OF PART  1 OF   6- HDA  060  WBKK  VHHH 20MAR12   3K157201

FLIGHT     FROM  TO    DATE     ACFT       REG      CAPTAIN
HDA  060   WBKK  VHHH  20[1]2  A320-232C  BHSK     ARNOLD MS
CRUISE SCHEDULE - CI-17 [1]

[2] MET OBS 191200
                                SCHED DEP 0405  ARR 0700  TTL 0255
AIRPATH ROUTE 001
FMS ROUTE    BKIHKG1 [3]        ETD       0405 [4]

SPECIAL NAVIGATION NOTES
- ZGSZ, AND ZGGG ARE NOT COMMERCIALLY PREFERRED ALTERNATE

[5] TOC ISA DEV P05/          AVG COMP 010 TWC/ AVG ISA DEV  P04
IDLE FACTOR P0.5 PERF FACTOR P5.1

                 PLANNED REVISED                  TOTAL DIST  1079 [8]
[6] TAXI             200                 TOC
TRIP FUEL           6010          TM 0230 FL380  TOC TEMP -52
CONTINGENCY          300                         TOC W/V  116/054
MAND                  00
[7] ALTN ZGSZ        1200          TM 0027 FL110
RESERVE              1060
FUEL REQD /FR/       8770
REC EXTRA             600
TOTAL FUEL           9370        ENDURANCE 0353

[10] ZFW            52690                        CORR/1000 LNDG   77 [9]
RAMP WT             62060                        CORR/1000 RAMP   71

FINAL FUEL ORDERED..[11]..MAINT LOG FUEL..[12]..EST UPLIFT......

[13] REASON - ZFW CHG - DEST WX - ALTN - O[14] ...................../

                          FUEL SUMMARIES
[15] STEP BELOW CFP F/L  TIME 0233  T/F   6300 ZFW  52700 CI-17
340 SABNO 350
<

                      ALTERNATE SUMMARIES [16]

 SECTOR      CO RTE        DIST    FL     W/C      TIME      FUEL
VHHH-VMMC    HKGMFM8         90   090     2 HWC    0.22       950
VHHH-ZGSZ    HKGSZX8        114   110     0 TWC    0.27      1200
VHHH-ZGGG    HKGCAN8        183   190     2 HWC    0.38      1630
VHHH-ZSAM    HKGXMN8        343   290    38 TWC    0.54      2290
VHHH-RCKH    HKGKHH8        424   370    42 TWC    1.01      2610

PREPARED/RELEASED BY ADAM LAU          CFP GEN TIME 19MAR12 1709

END OF PART  1 OF  6 - HDA  060  WBKK  VHHH 20MAR12     3K157201 [17]
```

START OF PART 2 OF 6- HDA 060 WBKK VHHH 20MAR12 3K157201

18

MINIMA FOR FILING AS ALTERNATE

	PRECISION		NON-PRECISION	
VMMC	600	2.7	1000	4.7
ZGSZ	500	1.6	1300	5.9
ZGGG	400	1.6	800	2.7
ZSAM	700	2.3	1000	3.5
RCKH	700	2.3	1000	3.3
VHHH	400	1.6	900	3.9
WBKK	900	3.0	900	3.1
RPLL	700	2.3	800	3.1

19

SECTOR FUEL SUMMARY

20

1ENGINOP CRITICAL PT WBKK-RPLL EET 00.49 ETA.... FUEL RQD 5760
W/C WBKK P002 EET 0.54 W/C RPLL M002 EET 0.53 DIV FUEL 2580
AT LAT/LONG N11 22.8 E116 33.9 - 85 NM BEFORE NOBEN

21

1ENGINOP CRITICAL PT RPLL-VHHH EET 01.40 ETA.... FUEL RQD 7650
W/C RPLL P001 EET 0.50 W/C VHHH P000 EET 0.52 DIV FUEL 2500
AT LAT/LONG N17 46.5 E116 30.2 - 0 NM BEFORE MAVRA

DEPRESS CRITICAL PT WBKK-RPLL EET 00.50 ETA.... FUEL RQD 6670
W/C WBKK P003 EET 1.00 W/C RPLL M003 EET 1.00 DIV FUEL 3470
AT LAT/LONG N11 26.2 E116 34.3 - 81 NM BEFORE NOBEN

DEPRESS CRITICAL PT RPLL-VHHH EET 01.39 ETA.... FUEL RQD 8520
W/C RPLL P001 EET 0.59 W/C VHHH M006 EET 0.59 DIV FUEL 3420
AT LAT/LONG N17 38.2 E116 34.7 - 10 NM BEFORE MAVRA

22

ICAO ATS PLAN

(FPL-HDA060-IS

-A320/M-SHPDIRWYZ/S

-WBKK0405

-N0452F380 DCT NODIN M522 VINIK M754 AKOTA A583 SABNO

23

-VHHH0230 ZGSZ

-EET/WSJC0025 RPHI0028 VHHK0151

REG/BHSK SEL/BDHS DOF/120320

NAV/RNAV1 RNAV5

NAV/RNP4 RNP5 TCAS II 7.0)

ATC CLEARANCE / MET

24

HONG KONG VOLMET 2863 6679 8828 13282 H 15 45
HONG KONG VOLMET 128.875 SZX,MFM,KHH,TPE H 24

END OF PART 2 OF 6 - HDA 060 WBKK VHHH 20MAR12 3K157201

```
START OF PART  3 OF   6- HDA  060  WBKK  VHHH 20MAR12   3K157201
       25 26 27     28 ATION PLAN              29

POSN  ROUTE MRA  F/L  WIND  TTR MTR TAS GS  DIS TIME PLN ATA COR
      NAVAIDS                   ATS CTL FREQ          ETA     ETA
       LATITUDE  LONGITUDE  POSN FULLNAME

WBKK                                       AIRBORNE ...../
       DEPARTURE MANUVR INCLUDED
VJN   NODI20 158 CLB 28/007 203 203 267 265  28 0.06 ..../../../
      113.1                     126.10/KOTA KINABALU
../..  N05 54.0 E116 02.0   KINABALU (KOTA KINABALU)

30 NODIN NODI20 168 CLB 12/020 004 002 439 447 137 0.19 ..../../../
  FIR
../..  N08 11.0 E116 11.7

TOC.. M522     25 380 12/053 004 004 448 466   2 0.00 ..../../../

                                                         FL....../

VINIK M522     25 380 12/054 004 004 452 469  25 0.03 ..../../../
  FIR                           8942/MANILA
../..  N08 38.5 E116 13.8                                 FL...../

TENON M754     25 380 12/050 007 007 452 466  38 0.05 ..../../../
                                8942/118.90/MANILA
../..  N09 16.5 E116 18.4                                 FL...../

LULBU M754     20 380 12/037 007 007 452 466 113 0.15 ..../../../

../..  N11 09.6 E116 32.3                                 FL...../

NOBEN M754     20 380 13/023 007 007 451 462  98 0.12 ..../../../
                                118.90/MANILA
../..  N12 47.2 E116 44.4                                 FL...../

GUKUM M754     20 380 14/015 007 007 451 460  85 0.12 ..../../../
                                119.30/MANILA
../..  N14 11.7 E116 55.0                                 FL...../

AKOTA M754     24 380 18/015 007 007 452 467 136 0.17 ..../../../
                                119.30/8942/MANILA
../..  N16 27.7 E117 12.4                                 FL...../

MAVRA A583     20 380 20/026 333 333 452 469  88 0.11 ..../../../

../..  N17 46.7 E116 30.1                                 FL...../

SABNO A583     20 380 21/036 333 333 452 469  81 0.11 ..../../../
  FIR                           128.75/125.80/HONG KONG
../..  N18 59.1 E115 50.7                                 FL...../

RAMUS SABN3B   20 390 21/051 340 341 450 478  81 0.10 ..../../../

../..  N20 15.7 E115 21.1                                 FL...../

                                  ELAPSED TIME 02:01

END OF PART  3 OF   6- HDA  060  WBKK  VHHH 20MAR12     3K157201
```

```
START OF PART  4 OF   6- HDA  060  WBKK  VHHH 20MAR12   3K157201

POSN  ROUTE MRA  F/L  WIND  TTR MTR TAS GS  DIS TIME PLN ATA COR

RAMUS                                                 ..../.../../

DOVAR SABN3B  20 390 22/060 340 342 450 476  38 0.05 ..../../../

../..  N20 51.6 E115 07.0   DOVAR                        FL...../

TOD.. SABN3B  38 390 23/063 340 342 451 474   9 0.01 ..../../../

SONNY SABN3B  38 DSC 23/062 340 342 321 339   1 0.00 ..../../../
                                 118.92/
../..  N21 01.1 E115 03.3   SONNY

BETTY SABN3B  38 DSC 26/061 315 317 321 286  40 0.08 ..../../../

../..  N21 29.2 E114 33.5   BETTY

MANGO SABN3B  38 DSC 25/052 342 344 321 321   8 0.02 ..../../../

../..  N21 36.8 E114 30.9   MANGO

TD    SABN3B  65 DSC 25/036 342 344 321 321  40 0.07 ..../../../
      116.1                      126.30/121.30/HONG KONG
../..  N22 14.9 E114 17.6   TUNG LUNG

D343H SABN3B  65 DSC 28/009 341 343 321 317   8 0.02 ..../../../
                                 123.80/HONG KONG
../..  N22 22.5 E114 14.8

RIVER SABN3B  65 DSC 27/003 293 294 321 318   4 0.01 ..../../../

../..  N22 24.1 E114 10.9   RIVER

FI25R SABN3B  65 DSC 24/000 251 253 321 321  11 0.02 ..../../../

../..  N22 20.5 E113 59.7   ITFR073006

VHHH                                          7 0.01 ..../../../
      DESTINATION MANUVR INCLUDED
../..  N22 18.5 E113 54.9

       SCHED ARR    07.00      TOTAL TIME      02.30

END OF PART  4 OF  6 - HDA  060  WBKK  VHHH 20MAR12     3K157201
```

START OF PART 5 OF 6- HDA 060 WBKK VHHH 20MAR12 3K157201

31 ACC TIME	32 ACTUAL FUEL	33 FR CONT X MAND X	34 CONT MAND EXTRA	35 PLAN CONT	36 DIST TOGO	37 PLAN KG/HR	38 PLAN KG/GNM	39 ECAM FOB	40 USED	41 DEP FUEL -USED
WBKK		8470		300	1079					
VJN	00.06	7780		280	1051					
NODIN	00.25	6370		210	914					
TOC	00.25	6350		210	912					
VINIK	00.28	6220		200	886	2280	4.9			
TENON	00.33	6040		190	848	2275	4.9			
LULBU	00.48	5490		160	735	2268	4.8			
NOBEN	01.00	5020		140	637	2244	4.8			
GUKUM	01.12	4610		120	552	2227	4.8			
AKOTA	01.29	3970		90	416	2211	4.7			
MAVRA	01.40	3560		70	328	2189	4.7			
SABNO	01.51	3180		50	247	2174	4.6			
RAMUS	02.01	2810		30	166	2151	4.6			
DOVAR	02.06	2640		20	128	2140	4.5			
TOD	02.07	2600		20	118	2137	4.5			
SONNY	02.07	2590		20	118					
BETTY	02.15	2490		10	78					
MANGO	02.17	2470		10	70					
TD	02.24	2380		10	30					
D343H	02.26	2360		10	22					
RIVER	02.27	2360		10	18					
FI25R	02.29	2330		00	7					
VHHH	02.30	2260	MIN DIV FUEL		ZGSZ					

42 — TOD through TD

43 — 70kg

44 — ZGSZ

END OF PART 5 OF 6 - HDA 060 WBKK VHHH 20MAR12 3K157201

START OF PART 6 OF 6- HDA 060 WBKK VHHH 20MAR12 3K157201

45 ENROUTE SPOT WIND DATA 46

	FL250		FL310		FL350		FL410		FL100
POSN	FL	WIND-TMP	FL	WIND-TMP	FL	WIND-TMP	FL	WIND-TMP	WIND
VJN	25	10004-M18	31	12023-M33	35	12035-M44	41	12052-M60	28007
NODIN	25	12011-M17	31	13032-M33	35	12048-M44	41	12059-M60	30007
TOC..	25	12013-M17	31	13033-M33	35	12048-M44	41	11058-M60	30008
VINIK	25	12013-M17	31	13033-M33	35	12048-M44	41	11058-M60	30008
TENON	25	12012-M17	31	13027-M33	35	12039-M44	41	12054-M60	30006
LULBU	25	12005-M17	31	11009-M33	35	12018-M44	41	13045-M60	35002
NOBEN	25	10001-M17	31	09001-M33	35	12008-M44	41	13035-M60	26001
GUKUM	25	25003-M17	31	34003-M33	35	19003-M44	41	15034-M59	10000
AKOTA	25	25016-M16	31	28014-M33	35	23013-M44	41	17035-M58	27005
MAVRA	25	25025-M16	31	26026-M33	35	24026-M44	41	19038-M58	28006
SABNO	25	25036-M16	31	26039-M32	35	25040-M44	41	20045-M58	27008
RAMUS	25	25047-M17	31	26053-M31	35	25055-M43	41	22053-M57	27012
DOVAR	25	25051-M17	31	26058-M31	35	25062-M43	41	23057-M57	28012
TOD..	25	25052-M17	31	26059-M31	35	25063-M43	41	23058-M57	28012
SONNY	25	25052-M17	31	26059-M31	35	25063-M43	41	23058-M57	28012
BETTY	25	25055-M17	31	25063-M31	35	25069-M42	41	23063-M57	28012
MANGO	25	25057-M17	31	25064-M31	35	25070-M42	41	23064-M57	28013
TD	25	25062-M17	31	25071-M31	35	25076-M41	41	24071-M57	28015
D343H	25	25063-M17	31	25072-M31	35	25077-M41	41	24073-M57	27016
RIVER	25	25063-M17	31	25073-M31	35	25078-M41	41	24073-M57	27016
FI25R	25	25063-M17	31	25072-M31	35	25077-M41	41	24073-M57	27016
VHHH	25	25063-M17	31	25072-M31	35	25077-M41	41	24073-M57	27016

DESC 47	FL	070	130	210	290
WIND		27006	26025	25051	25069

END OF PART 6 OF 6 - HDA 060 WBKK VHHH 20MAR12 3K157201

ETOPS DIFFERENCES

A. ETOPS Flight Plan

Advises that the CFP has been calculated taking into account flight over a minimum of one (1) ETOPS sector and includes ETOPS planning and fuel requirements.

B. ETOPS ALTERNATE/MINIMA FOR FILING

Minimum for ETOPS alternate planning minima purposes. Refer to Part A 8.5.1.4

C. ETOPS SEGMENTS

Defines ETOPS sector Entry point (EEP) and Exit point (EXP) by latitude, longitude and elapsed time after take-off. There may be multiple sectors. These points should not be entered directly into the FMS as navigation waypoints, but loaded by using stored waypoint and fix information.

D. SECTOR FUEL SUMMARY

All ETOPS sectors, 1 engine inoperative and depressurised sector critical points will be defined by latitude, longitude, elapsed time after airborne and distance from a navigation waypoint. These should not be entered directly into the FMS as navigation waypoints but loaded using stored waypoint and fix information.

E. ETOPS CRITICAL FUEL POINT CODES

Aircraft Type	Most Critical Fuel Scenario	Usual Fuel Coding	Example	MEL Additive (+ x%)	Example
A330	One Engine, Depressurised	nnnETOPS	120ETOPS	nnnETOPx	120ETOP2

nnn = Rule Time in minutes

x = Additional percentage in Critical Fuel for a MEL requirement

Increments for severe icing and APU running are incorporated in the critical fuel point calculations.

F. FUEL REQUIRED

Fuel required for normal operation up to the specified critical point, suffer a failure, descend and then divert to either airfield shown.

G. DIV FUEL

Fuel required at the specified critical point to carry out the appropriate diversion with penalties, holding and approach fuel requirements. The wind component, (P = Plus or Tailwind, M = Minus or Headwind) elapsed time from the critical point to diversion airfields is also shown.

H. ETOPS RANGE ENTRY/EXIT

Defines the rule time in use i.e.: 120 minutes.

I. Estimated earliest and latest time of arrival at the nominated suitable airports. These times assume take-off at STD + 10 minutes, flight planned route to the appropriate ETOPS boundary and then one-engine inoperative flight on a Great Circle track to the nominated airport. Space exists to facilitate an update of these times for early or late departure, if so required.

The weather at these airports must be suitable from the earliest possible time of arrival to the latest possible time of arrival.

J. ETOPS Route Plot

K. Enroute alternate.

L. 60 minute ring.

M. Specified rule time ring as shown in R.

N. Great circle track.

O. CFP track.

P. ETOPS ENTRY POINT (EEP) (CROSS REFER TO C)

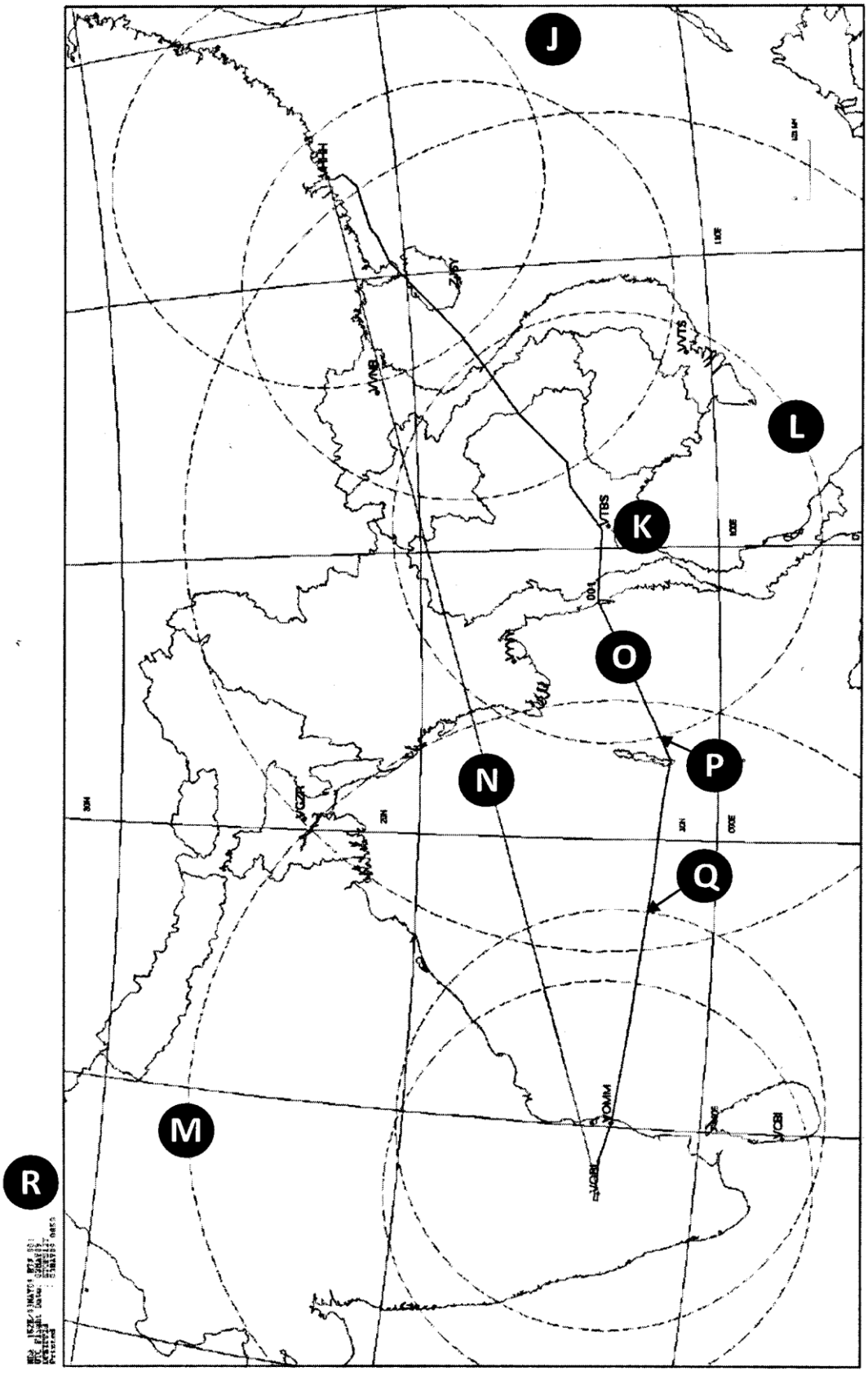
Q. ETOPS EXIT POINT (EXP) (CROSS REFER TO C)

R. PAGE CAPTION.

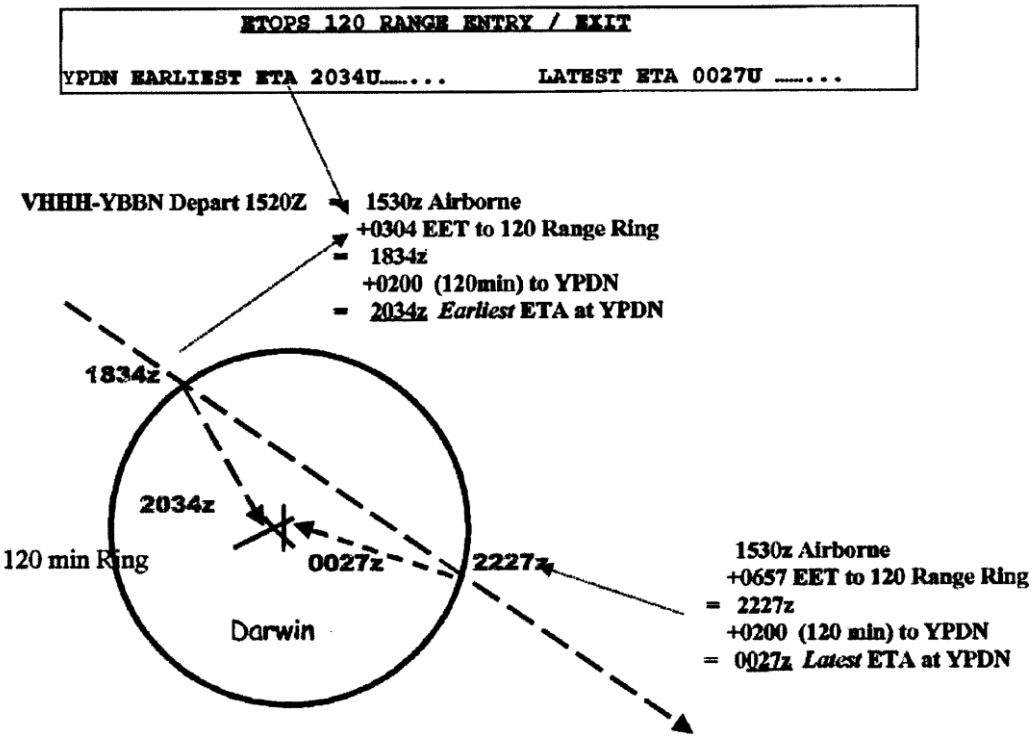
```
START OF PART  1 OF   9- HDA  152  VHHH  VOBL 03MAY09    53156102

FLIGHT     FROM  TO    DATE     ACFT       REG      CAPTAIN
HDA  152   VHHH  VOBL  03MAY09 A330-343   BHWJ     PARK HARLING
CRUISE SCHEDULE - CI-35

MET OBS 030000
                                SCHED DEP 1420  ARR 1950  TTL 0530
AIRPATH ROUTE 001
FMS ROUTE    HKGBLR1            ETD       1420


SPECIAL NAVIGATION NOTES

          A  ////////////////////////////
             ////  ETOPS FLIGHT PLAN  ////
             ////////////////////////////
- KA153/BLR-HKG, TTL FUEL 37700, ALTN MFM, EZFW 162000.

TOC ISA DEV P05/          AVG COMP 013 HWC/ AVG ISA DEV  P04
IDLE FACTOR P0.7 PERF FACTOR M1.9

                PLANNED REVISED                  TOTAL DIST  2381
TAXI                500                    TOC
TRIP FUEL         30900          TM 0524 FL381  TOC TEMP -51
CONTINGENCY        1500                         TOC W/V  276/042
MAND                000
ALTN VOMM          3600          TM 0034 FL190
RESERVE            2500
FUEL REQD /FR/    39000
REC EXTRA          2000
TOTAL FUEL        41000        ENDURANCE 0711

ZFW              164500                         CORR/1000 LNDG  161
RAMP WT          205500                         CORR/1000 RAMP  139


FINAL FUEL ORDERED.....MAINT LOG FUEL.....EST UPLIFT......

REASON - ZFW CHG - DEST WX - ALTN - OTHER ...................../

                        FUEL SUMMARIES
STEP BELOW CFP F/L  TIME 0523  T/F  31700 ZFW 163800 CI-35
341 SAMAS 340 BKK 360 DWI 320 PPB 380
<


                     ALTERNATE SUMMARIES

 SECTOR       CO RTE         DIST    FL     W/C      TIME      FUEL
VOBL-VOMM     BLRMAA8          176   190     3 HWC    0.34      3600
VOBL-VOCI     BLRCOK8          271   260     3 HWC    0.47      4800
VOBL-VOHS     BLRHYD8          295   290     6 TWC    0.49      5000
VOBL-VOTV     BLRTRV8          346   320    10 HWC    0.57      5800
VOBL-VCBI     BLRCMB8          453   410     2 TWC    1.09      6700

PREPARED/RELEASED BY EDEN LAW          CFP GEN TIME 03MAY09 0900

END OF PART  1 OF  9 - HDA  152  VHHH  VOBL 03MAY09     53156102
```

```
START OF PART  2 OF   9- HDA  152  VHHH  VOBL 03MAY09    53156102


              MINIMA FOR FILING AS ALTERNATE
          PRECISION                      NON-PRECISION
VOMM   700      2.3                        1100      5.1
VOCI   700      2.4                         900      4.3
VOHS   700      2.3                         900      3.9
VOTV   700      2.3                         900      4.7
VCBI   700      2.3                        1000      3.1
VOBL   700      2.3                        1000      4.3
VTBS   400      1.6                         800      3.6

             ETOPS SEGMENTS

EEP VTBS EET 0307            EXP VOMM EET 0354
    N11 59.1 E093 32.1           N12 14.1 E087 32.9


                    SECTOR FUEL SUMMARY

120ETOPS CRITICAL PT VTBS-VOMM EET 03.28 ETA.... FUEL RQD  37900
W/C VTBS M009 EET 1.37   W/C VOMM P013 EET 1.37  DIV FUEL  13800
AT LAT/LONG N11 54.2  E090 50.6 - 127 NM BEFORE SADAP

1ENGINOP CRITICAL PT VTBS-VOMM EET 03.31 ETA.... FUEL RQD  34500
W/C VTBS M003 EET 1.42   W/C VOMM P003 EET 1.42  DIV FUEL  10200
AT LAT/LONG N11 56.3  E090 28.6 - 105 NM BEFORE SADAP

DEPRESS  CRITICAL PT VTBS-VOMM EET 03.28 ETA.... FUEL RQD  37300
W/C VTBS M009 EET 1.43   W/C VOMM P013 EET 1.44  DIV FUEL  13300
AT LAT/LONG N11 53.9  E090 54.3 - 131 NM BEFORE SADAP


                ETOPS12T RANGE ENTRY/EXIT

VTBS  EARLIEST ETA  1646U .....    LATEST ETA  2034U .....

VOMM  EARLIEST ETA  1927U .....    LATEST ETA  2013U .....


END OF PART  2 OF  9 - HDA  152  VHHH  VOBL 03MAY09     53156102
```

B C E F G D H I


J
L
K
O
N
P
Q
M
R

EXAMPLE OF ETOPS RANGE ENTRY / EXIT TIME CALCULATION ON THE CFP



8.1.9 DOCUMENTATION

8.1.9.1 DOCUMENTS, FORMS AND ADDITIONAL ITEMS TO BE CARRIED

DOCUMENTATION

Documents To Be Carried

Documents which must be carried to meet the requirements of the AN(HK)O, are listed below. All are permanently carried in the Aircraft unless specified:

a. Radio Station Licence.

b. Certificate of Airworthiness.

c. Flight Crew Licences (by individual Crew members).

d. Copy of the Load Sheet (prepared by either crew or handling agent).

e. Certificate of Maintenance Review.

f. Maintenance Log.

g. Certificate of Registration.

h. Operations Manual

Additional Documents Carried

In addition to the documents required by the AN(HK)O the following are also carried:

a. Navigation and Manuals Bags.

b. General Declaration (from handling agent). Passenger Manifest, if applicable (from handling agent).

c. Freight Manifest, if applicable (from handling agent).

d. Passengers' tickets (carried by individual passengers).

e. Copy of Certificate of Insurance.

f. Noise Certificate.

g. CCAR-129.

h. Copy of Air Operator's Certificate.

i. Copy of Approvals and Permissions Authorised by HK CAD.

Documents To Be Left Behind At Each Departure

The following Documents are to be left behind on each departure, in the possession of the handling agent, station representative or qualified engineer:

a. Load Sheet signed by the Commander.

b. Trim Sheet, if not using computer Loadsheet.

c. Dangerous Goods documentation including a copy of the NOTOC.

d. Station Copy page of the Maintenance Log signed by the Commander.

Flight Documents Envelope

The following documentation shall be placed in the Flight Documents Envelope at the completion of the flight.

a. Commanders Administrative Report (ACARS version or equivalent)

b. Computer Flight Plan / Fuel Progress Log

c. ACARS printout of PDC

d. ACARS printout of D-ATIS / Weather

e. Loadsheet (and Trimsheet when applicable)

f. ACARS RTOW printout or equivalent

g. Refuel Record

h. Fuel Uplift Receipts

i. Commander's Discretion Report (when applicable)

j. ASR / CSR / CRP Forms (when applicable)

k. MET / NOTAMS

A copy of the General Declaration is passed to the Commander by FA1 and serves as a record of crew names.

The Flight Documents Envelopes are collected from the flight deck by ramp staff at the end of each aircraft rotation and passed to Ops Data Control (ODC).

ODC checks the envelopes for missing documents. If a document is found to be missing, they will e-mail the Commander or company department responsible for its issue to locate the missing document.

If a complete Flight Documents Envelope is missing, an e-mail is sent to the Commander and Ramp and Operations Offices to track its location.

The data is entered into the dedicated data base.

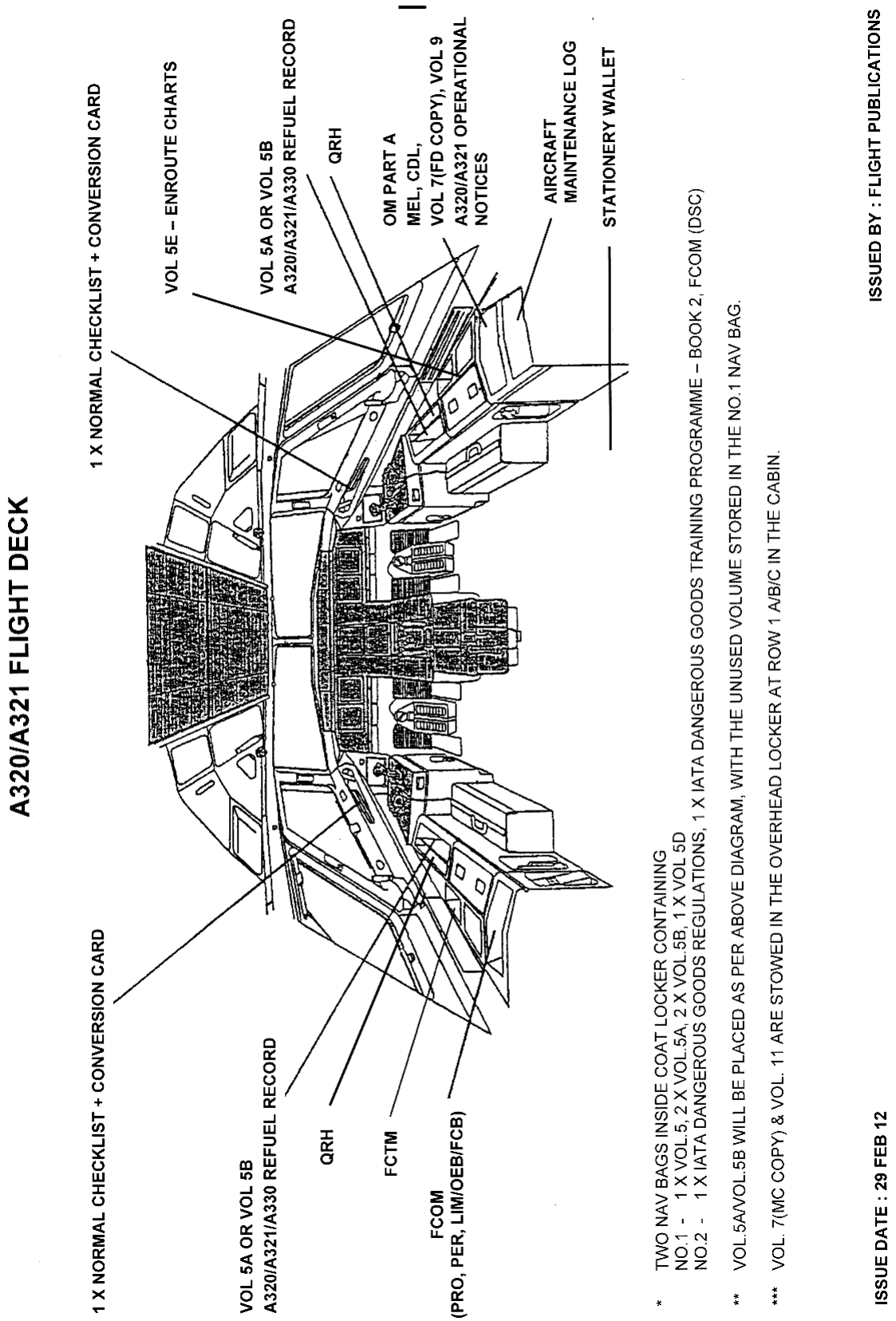
Any CAR Comments are sent to the relevant "ADDRESSEE".

Commander's Discretion Reports (CDR) relating to an Extension of a Flying Duty Period or Reduction in a Rest Period are sent to the Crew Rostering Superintendent for the aircraft type, who verifies the Report before sending it to the General Manager Operations for action; (see also Part A Chapter 7).

Flight Documents Envelope containing relevant documents are stored in ODC for a period of one month, after which time they are moved into long term storage. The length of storage is in accordance with CAD 360.

Manuals Storage

a. A320/1



* TWO NAV BAGS INSIDE COAT LOCKER CONTAINING
NO.1 - 1 X VOL.5, 2 X VOL.5A, 2 X VOL.5B, 1 X VOL 5D
NO.2 - 1 X IATA DANGEROUS GOODS REGULATIONS, 1 X IATA DANGEROUS GOODS TRAINING PROGRAMME – BOOK 2, FCOM (DSC)

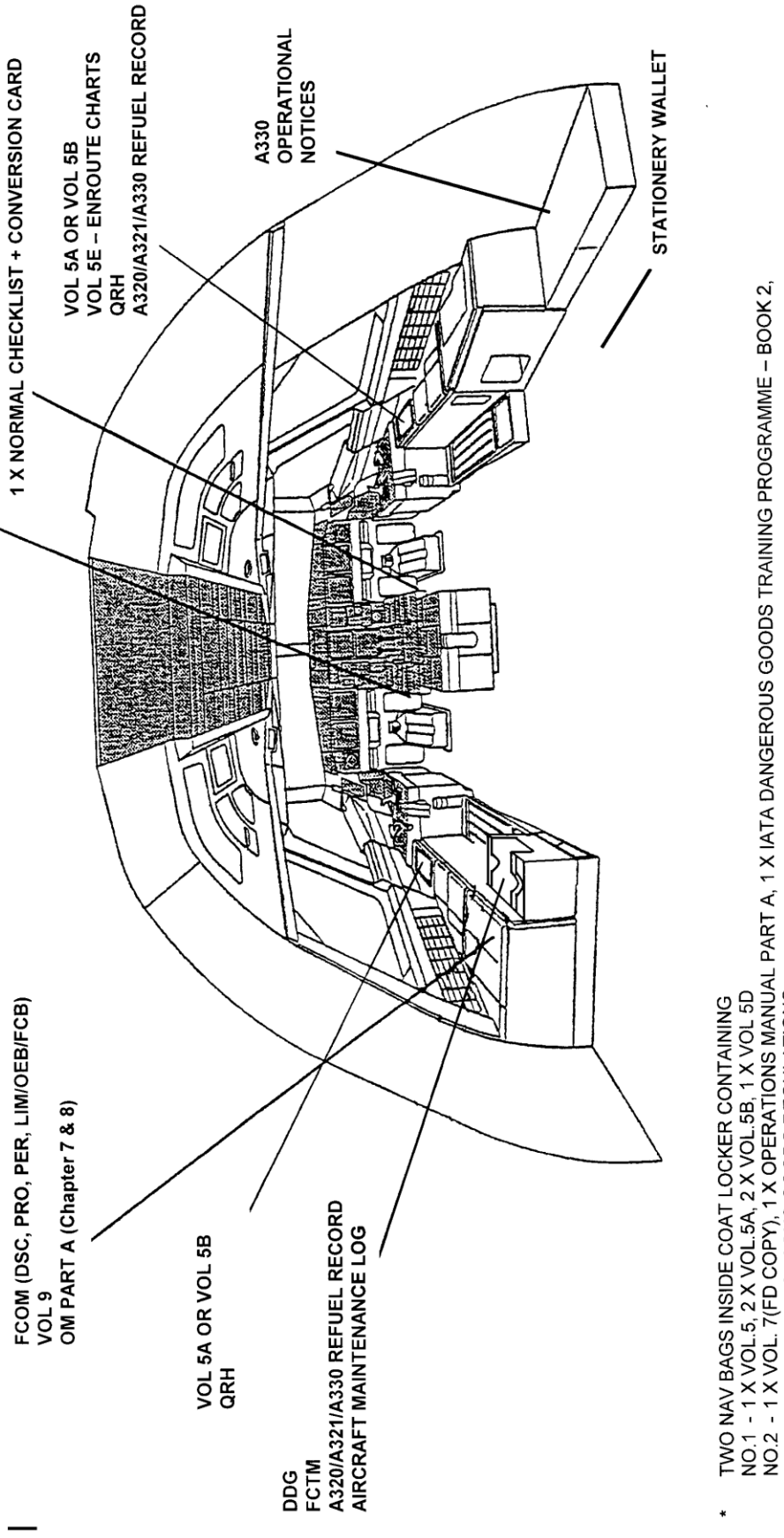
** VOL.5A/VOL.5B WILL BE PLACED AS PER ABOVE DIAGRAM, WITH THE UNUSED VOLUME STORED IN THE NO.1 NAV BAG.

*** VOL. 7(MC COPY) & VOL. 11 ARE STOWED IN THE OVERHEAD LOCKER AT ROW 1 A/B/C IN THE CABIN.

ISSUE DATE : 29 FEB 12

ISSUED BY : FLIGHT PUBLICATIONS

b. A330



* TWO NAV BAGS INSIDE COAT LOCKER CONTAINING
NO.1 - 1 X VOL.5, 2 X VOL.5A, 2 X VOL.5B, 1 X VOL 5D
NO.2 - 1 X VOL. 7(FD COPY), 1 X OPERATIONS MANUAL PART A, 1 X IATA DANGEROUS GOODS TRAINING PROGRAMME – BOOK 2,
1 X IATA DANGEROUS GOODS REGULATIONS

** VOL.5A, VOL.5B WILL BE PLACED AS PER ABOVE DIAGRAM, WITH THE UNUSED VOLUME STORED IN THE NO.1 NAV BAG.

*** VOL. 7(MC COPY) & VOL.11 ARE STOWED IN THE OVERHEAD LOCKER IN THE FORWARD GALLEY.

ISSUE DATE : 29 FEB 12

ISSUED BY : FLIGHT PUBLICATIONS

Mobile Phone Sim Card

A mobile phone Sim Card, which has been security coded #2580 can be found in the Stationery Wallet.

The purpose of this Card is to aid cockpit crew's communication for company related matters when operational difficulties are encountered. Crews are to annotate the CAR if the Sim Card has been used.

Operational Notices

An Operational Notices folder is kept in the Flight Deck. The aircraft folder is amended weekly.

CAAC Operations Specifications CCAR-129

This is a document issued by the CAAC authorising a foreign air transportation carrier to conduct operations in the PRC.

This document is accessible by all KA PRC offices by means of the KA intranet, as per CCAR-129 regulation requirements.

A copy is also available in the aircraft documents holder for reference.

Air Operator's Certificate

The AOC which includes the Operations Specifications, is available (for inspection) in the documents holder of each aircraft.

CONFIDENTIAL HUMAN FACTORS REPORT

Confidential Human Factors Report Forms are included in the Stationery Wallet and should be used whenever a crew member feels it necessary to pass on a confidential comment or suggestion.

Confidential Human Factors Reports are to be addressed to the appropriate Manager.

CREW TORCHES

All crew members will carry their own torch.

8.1.9.2 COMMANDERS ADMINISTRATIVE REPORT (CAR)

ACARS CAR is the primary means of recording flight and crew details for all flights. Refer to Vol. 9 for specific procedures. Guidance for use of the COMMENT page is as per the explanation below under "Addressee/Remarks". If more space is required use a paper Commander's Report Form.

CAR BACKUP

A Commanders Report Form is available as a backup when ACARS CAR is unavailable. The Commander is to complete the information as listed below and place it inside the Flight Documents Envelope.

FLIGHT & FUEL INFORMATION

All items must be completed for each sector. Delays are to be recorded using delay codes listed on the clipboard. The primary cause of delay is to be recorded here and expanded in Remarks section if necessary, along with any further contributing causes.

DUTY PERIODS

This field must be filled in especially if the FDP is extended or for split duties, as defined in the Flight Time Limitation Scheme. It remains the Commander's responsibility to ensure no crewmember exceeds FTL.

TAKEOFF & LANDING

Each takeoff and landing for Commander and First Officer must be recorded.

CREW

All flight crew members must be recorded. Cabin crew names may be omitted if a General Declaration is placed inside the Flight Documents Envelope.

ADDRESSEE/REMARKS

Communicate any information that might be of value to subsequent crews or to the Company in improving the operation. Addresses can be found on the reverse of the clipboard. The following information should also be annotated as required:

a. Significant events and delays

b. Completion of an MOR, Air Safety Report or Crew Confidential Report

c. Training detail carried out

d. Extension of Duty or Split Duty as defined in the Flight Time Limitation Scheme

COMMANDER'S SIGNATURE

The Commanders signature is required.

8.2 GROUND HANDLING

8.2.1 GENERAL

8.2.1.1 APU VS. GPU PROCEDURES

To make most efficient use of the APU vs. GPU the following procedures are to be used.

HONG KONG TRANSIT & TERMINATING FLIGHTS

All flights arriving in Hong Kong, either transiting or terminating, will normally have ground supplied power and air (as applicable) connected to the aircraft shortly after arrival at the parking bay. Crew will then transfer power to the ground servicing equipment and shut down the APU.

APU start should be delayed until a convenient point in the Cockpit Preparation, nearer the time of departure.

OUTSTATION TRANSIT AND TERMINATING FLIGHTS

The APU is to be the primary power and air-conditioning source on all outstation transit and terminating flights. The exception to this is ports that require the APU to be shut down for environmental reasons (as per Port page).

8.2.1.2 AIRCRAFT DOORS

APPLICABILITY

This section contains company-wide policy for the opening and closing of passenger aircraft doors prior to engine start or pushback and after the aircraft is on blocks or all engines shut down. Any Dragonair Operations Manual containing policy and procedures addressing the opening and closing of aircraft doors shall be consistent with this policy.

All cabin door operations, i.e. open/close or re-open, may only be conducted when connected with Ground Supporting Equipment, i.e. aerobridge, passenger step, catering truck and garbage service truck etc.

Details on door opening and closing procedures can be found in Vol 7.4.

DOOR OPENING POLICY

Aircraft doors shall only be opened by persons who are trained and competent to do so. In NORMAL circumstances aircraft doors shall be opened from the outside of the aircraft.

Doors are allowed to be opened from inside the aircraft under ABNORMAL or EMERGENCY conditions.

ABNORMAL conditions include:

a. Diversion or Charter Flight to a non on-line port where ground support services are non-standard.

b. Situations where contracted Catering Staff will not open aircraft doors from the outside.

c. Aircraft towing activities.

d. Aircraft maintenance activities.

For case A, with the Captain’s permission, a crew member is permitted to open aircraft doors from the inside.

For cases B, C and D, CX engineering staff (or contracted engineering staff) are permitted to open aircraft doors from inside the aircraft when this is specifically

required.

Door opening under **ABNORMAL** conditions requires the door to be in the disarmed (manual) mode at all times.

EMERGENCY conditions include:

Accidents or incidents where the immediate evacuation of aircraft occupants is required. In these instances both cockpit crew and cabin crew will open doors from inside the aircraft.

DOOR CLOSING POLICY

Aircraft doors may be closed from the inside or outside only by suitably trained personnel. Where an aircraft is departing for a flight, the door(s) shall be closed from inside the aircraft by the cabin crew. Airport staff may assist cabin crew to close aircraft doors by pushing on the physical structure of the door but under no circumstances should they interfere or participate in the locking process.

Once closed, any need or request for a door to be re-opened must be communicated to the Captain. Communication should then be established between the cockpit crew and ground engineer to ensure that the Ground Supporting Equipment is positioned and conditions are safe for a door to be re-opened.

8.2.2 FUELLING PROCEDURES

8.2.2.1 SAFETY PRECAUTIONS

GENERAL

Safety precautions must be always taken to preclude the possibility of fire during refuelling and defuelling procedures.

The main causes of risk of fire with fuel deal with sparks due to static electricity and hot point (engines, APU, ground installations, smoking).

The fuel generally does not catch fire easily, but the risk of fire is increased when the fuel is sprayed (link, disconnecting pipe) and in the presence of fuel vapour especially when low flash point fuels are used.

General safety precautions for fuelling procedures are given in Aircraft Maintenance Manual (AMM) - servicing chapter and in the FCOM/PER-LOD-FUL.

The following precautions apply during any fuelling operations:

1. Engine ignition system must be "OFF".
2. The weather radar must be switched OFF.
3. Radio is not transmitting on HF.
4. Electrical circuits in the tanks area must not be connected or disconnected.
5. Ground Power Unit and APU may be functioning. Refer to FCOMs for limitations related to APU start/shutdown.
6. No open flame, nor smoking is permitted around the aircraft.
7. Mobile telephones shall not be used within 6m of the refuelling truck.

For aircraft fitted with a trim tank, refuel or defuel procedure should ensure that there is no fuel in the trim tank as long as the wing tanks are not full and that wing tanks are not defuelled as long as trim tank is not empty unless authorised by the normal operation of the aircraft fuel system (refer to FCOM) in order to avoid a possible tail tipping.

ACCIDENTAL SPILLAGE OF FUEL

If a substantial accidental spillage of fuel is detected, the Commander must ensure the following actions are taken:

1. The refueller informed, and if necessary, refuelling stopped.
2. The Ground Engineer, airport authorities and fire services must be informed.
3. The Commander or, in his absence, a nominated flight deck crew member, will liaise with the Ground Engineer and the airport authorities (if required) to decide if passenger boarding is to be delayed until the spillage has been cleared. If passenger boarding has commenced a decision must be made to determine if it is necessary to offload any passengers already on the aircraft.
4. If passenger boarding is allowed to continue, boarding passengers must be kept as far as possible from the fuel spillage.

ELECTRICAL SWITCHING DURING REFUELLING

Caution:

HF radio transmissions must not be made during refueling.

Fuelling operations should be suspended with lightning in the immediate vicinity of the airport.

8.2.2.2 REFUELLING REQUIREMENTS AND RESPONSIBILITIES

The Captain is responsible for cross-checking the fuel uplift, distribution, and signing the Refuel Record Form. Any crew member or approved refueller may sign the fuel delivery sheet.

An Authorised Refueller will normally carry out the actual refuelling operation. If an Authorised Refueller is not available, refer to the refuelling procedures located in FCOM/PER-LOD-FUL Refueling. It is the responsibility of the Commander, or the person delegated by him to refuel, to ensure that before refuelling is commenced, the bowser counter is zeroed and the bowser is adequately earthed. After refuelling is complete, he must ensure that the refuelling cap has been securely replaced and that the refuelling panel cover is properly latched.

The Refuel Record Form is to be completed prior to each flight, including those sectors which do not require fuel uplift. The white copy is retained with the flight documents, the blue copy is retained at the station.

FUEL QUALITY CHECK

A fuel quality check is required at all stations where fuel is uplifted. At stations where a CX/KA engineer carries out the turn-round and/or supervises refuelling, it is sufficient to ask the engineer if a quality check has been carried out. If a pilot supervises the refuelling, he must ensure that the fuel quality is good by the following method, using the onboard fuel sampling kit or by making use of local facilities:

a. When refuelling from a fuel tanker, a fuel quality check shall be carried out before refuelling commences.

   When hydrant refuelling is used, a fuel quality check shall be carried out, preferably after 1,000 litres have been delivered. This allows any remaining fuel from the previous refuelling to be flushed out from the test line.

b. Take the jar, syringe and Shell fuel capsules from the sampling kit. Check that the capsules are not out of date. Record in the Aircraft Maintenance Log when fewer than ten capsules remain.

c. Request a sample of fuel from the bowser in use.

d. Check the sample for separated water, clarity and colour (colourless or light straw colour). It should be bright and clear.

e. Place a Shell capsule on the syringe and draw some fuel into the syringe. Holding the capsule, eject the fuel from the syringe. Check the paper in the capsule for discoloration - the colour will be blue if water is present. If the paper remains yellow, wet it (with water or saliva) to obtain a blue colour for integrity check of the paper.

f. If check is unsatisfactory, contact Engineering to determine what further action should be taken.

If there is any doubt that the fuel is JET A1/AVTUR, because of pink colour/strong petrol smell/rapid evaporation or other reason, an SG check should be carried out using the hydrometer provided. For JET A1 / AVTUR, the SG should be between 0.78 (summer) and 0.81 (winter).

8.2.2.3 REFUELLING WITH PASSENGERS ON BOARD

Refuelling or de-fuelling with passengers on board, embarking or disembarking.

1. The Commander or, in his absence, a nominated flight deck crewmember shall remain on the flight deck for the duration of the fuelling operation and shall inform the FA1 upon commencement and completion of fuelling.

2. The FA1 shall brief passengers that fuelling is taking place, that they must not smoke or produce sources of ignition, and should remain seated with their seat belts unfastened.

3. No Smoking Signs to be illuminated. Seat Belts signs to be off.

4. EMERGENCY Lights selected to ARMED.

5. Airbridges or aircraft steps are to be positioned preferably at doors L1 and L2, or rear left hand door. These doors are to remain open and clear of obstruction throughout the fuelling operation.

   If only ONE passenger door is open with an airbridge or steps in position, an additional door (preferably L1, L2 or rear left hand door) shall be selected to MANUAL/DISARM as applicable, and have a Primary Cabin Crew stationed at the door throughout the fuelling operation.

6. A Cabin Crew member shall be stationed at each open door, and on the upper deck if passengers remain in this area, and shall advise the flight deck immediately any fuel vapours are detected in the aircraft, or any other hazard is observed. The flight deck crew member is responsible for ordering an evacuation, if required, and for communicating with the refueller to cease fuelling. This may be via the interphone or in person.

7. Every main deck cabin zone not provided with an airbridge or steps shall have a minimum of one door available for emergency deplaning. That door must be free from obstruction and selected to MANUAL/DISARM as applicable. The crew member will periodically check that the slide area is clear of obstructions.

8. Primary Cabin Crew will remain in the vicinity of their respective doors, capable of responding immediately to an evacuation order.

9. If an evacuation is ordered, the Commander, nominated crew member or FA1 may direct the Cabin Crew to use exits away from the source of danger i.e. fuel spill. An airbridge or steps should be used in preference to emergency escape slides.

10. Adequate Cabin Crew, KA, or handling company personnel shall be available to assist unattended non-ambulatory passengers in the event of an evacuation.

11. If any door is unserviceable, the zone, either forward, or aft, will have 2 doors available for emergency use as defined in 5 or 7 above.

12. If flight time or crew rest limitations preclude the presence of a flight deck crew member, no fuelling, engine runs or maintenance involving the fuel system may take place with passengers on board.

13. Overwing fuelling is prohibited.

14. When passengers are embarking or disembarking, KA / CX or handling company personnel shall be in attendance near the aircraft to enforce no smoking regulations and to guide passengers along a safe path to and from the aircraft, if an airbridge is not available.

15. If steps are in use, the route to and from the aircraft must not be crossed by fuelling hoses or cables.

16. Switching on the seatbelts signs on completion of refuelling serves to advise the Cabin Crew that refuelling is completed and that they may resume normal cabin duties.

17. Defuelling is not permitted with passengers embarking, on board, or disembarking.

8.2.2.4 UPLIFTING DEFUELLED FUEL

Defuelled fuel may be uplifted if:

1. It was defuelled from a CX / AHK / KA aircraft.

2. It has not been held in a tanker for longer than 24 hours.

3. A normal water contamination check is made.

4. Wide-cut fuel contains an anti-static additive.

Once fuel is returned to the fuel farm it is considered contaminated and must not be reloaded.

8.2.2.5 ADMIXING FUELS

Mixtures of wide-cut and kerosene turbine fuels can result in the air-fuel mixture in the fuel tank reaching the combustible range. Extra precautions are therefore required to avoid electrostatic discharges in the tank. An anti-static additive minimises the risk. When this additive is present in the proportions recommended by fuel companies, or included in the fuel specification, normal precautions applicable to fuelling with passengers embarking, on board, or disembarking, apply.

When there is any doubt as to whether a wide-cut fuel specification includes an anti-static additive, CX Engineering MUST be contacted through IOC for guidance as significant extra precautions are required during refuelling.

8.2.2.6 APPROVED FUELS AND OILS

APPROVED FUELS

GRADE (TYPE)	SPECIFICATION	FREEZING POINT
Kerosene Type (AVTUR : JP 1)	DERD 2453 Issue 5 (2) DERD 2494 Issue 10 A.S.T.M. D1655-89 JET A A.S.T.M. D1655-89 JET A-1 CAN/CGSB 3.23-M86 (Canadian) MIL-T-83133A (JP 8) I.A.T.A. 1988: Kerosene type AIR 3405/C (French) U.S.S.R. T-1 & TS-1 (GOST 10227-86) U.S.S.R. RT (GOST 10227-86) U.S.S.R. T-7 (GOST 12308-66) Romanian State (3754/73 (CS-3)) Romanian State STAS 5639	−47°C −47°C −40°C −47°C −47°C −47°C −47°C −50°C −60°C −55°C −60°C −50°C −50°C
Wide-cut Fuels (AVTAG : JP 4)	DERD 2454 Issue 4 (2) DERD 2486 Issue 9 A.S.T.M. D1655-89 JET B I.A.T.A. 1987 JP 4 type CAN/CGSB 3.22-M86 (Canadian) MIL-T-5624N JP 4 grade AIR 3407/B (French) TL 9130-006 Issue 6 (German) U.S.S.R. T-2 (GOST 10227-86)	−58°C −58°C −50°C −50°C −51°C −58°C −58°C −58°C −60°C
High Flash Point (AVCAT : JP 5)	DERD 2452 Issue 2 (3) DERD 2498 Issue 7 3-GP-24Ma(86) (Canadian) MIL-T-5624N JP 5 grade AIR 3404/C (French) TL 9130-007 Issue 4 (German)	−46°C −46°C −46°C −46°C −46°C −46°C
Additional Approved Fuels Kerosene Type	RP-1 Available Vietnam & China RP-2 Available Vietnam & China RP-3 Available China	−60°C −50°C −47°C

Notes:

1. Fuel specification, D.Eng.RD.2453 and D.Eng.R.D.2454 already include a corrosion inhibitor to D.Eng.R.D.2461 and anti-icing additive to specification D.Eng.R.D.2451 (Issue 2 or later issue) to approved limitations. D.Eng.R.D.2452 includes anti-icing additive.
2. Fuel Colouring − Fuel shall be bright, clear and coloured within the range “White Water to Light Amber or Straw colour”. Fuels which are coloured Blue, Red or Green are not to be uplifted.
3. RP-3 complies with D.Eng.R.D.2494 and A.S.T.M.D1655 JET A-1 specifications.
4. RP-1/2/3 may also be known as No.1 Jet Fuel, No.2 Jet Fuel, No. 3 Jet Fuel respectively.

8.2.3 DE-ICING AND ANTI-ICING

8.2.3.1 HAZARDS OF ICE, SNOW AND FROST

A very small amount of roughness caused by ice, snow or frost (as little as 0.40mm (1/64in.)), will disrupt the airflow over the lift and control surfaces of an aircraft. Any such deposit, except as permitted in the Flight Crew Operating Manual, may drastically affect the aircraft's performance due to a severe loss of lift, increased drag and impaired manoeuvrability, particularly during take off and initial climb. Ice accumulation can also interfere with the movement of control surfaces or significantly increase aircraft weight.

During conditions conducive to aircraft icing during ground operations, Dragonair aircraft shall not takeoff when ice, snow, slush or frost is present on, or adhering to, the wings, control surfaces, engine inlets or other critical surfaces. This is known as the "Clean Aircraft" concept.

Numerous techniques for complying with the "Clean Aircraft" concept have been developed. Proper and adequate de-icing, followed by an application of appropriate anti-icing fluid, provides the best protection against contamination. A visual or physical check of the critical aircraft surfaces to confirm the treatment has been effective and that the aircraft is in compliance with the "Clean Aircraft" concept must be carried out when required.

8.2.3.2 OPERATION TO AIRPORTS WHERE DE/ANTI-ICING MAY BE REQUIRED

Operation to airports where de/anti-icing may be required should be evaluated in the same manner as any destination airport. The aim is to get passengers to their destination, and planning should be conducted with this objective in mind unless informed otherwise by IOC. Crew should ensure that all operational requirements are satisfied, thereby ensuring safety is not compromised.

In exceptional circumstances, for example if de/anti-icing fluid of any type is not available, or if weather conditions at the destination are extreme, consult with IOC at the planning stage to ensure commercial input in the decision making process. In most cases, IOC will be aware of the situation and plan accordingly. Otherwise, the assumption should be that the commercial risk is acceptable.

When en-route and in receipt of the latest weather information, the primary concern is that operational and safety aspects associated with continued flight towards destination are satisfied. IOC should then be consulted over the commercial risk.

Notwithstanding the above guidelines, final authority for any decision rests with the Aircraft Commander. If a decision is taken to divert, IOC must be informed to ensure that ground support can be arranged and a recovery plan put in place.

8.2.3.3 DEFINITIONS

Active frost is the condition when frost is forming. Active frost occurs when the surface temperature is at or below 0°C and at or below the dew point.

Anti-icing is a procedure in which an Aircraft Anti-Icing Fluid (AAF) is applied to a surface free of frozen contaminants in order to protect the surface from the accumulation of frozen contaminants for a limited period of time.

Clear ice is a coating of ice, generally clear and smooth, but with some air pockets. It is formed on exposed objects at temperatures below, or slightly above, freezing temperature, with freezing of super-cooled drizzle, droplets or raindrops.

Cold soak Even in ambient temperature between -2°C and at least +15°C, ice or frost can form in the presence of visible moisture or high humidity if the aircraft structure remains at 0°C or below. Any time precipitation falls on a cold-soaked aircraft while on the ground, clear icing may occur. This is most likely to occur on aircraft with integral fuel tanks after a long flight at high altitude. Clear ice is very difficult to detect and may break loose during or after take-off. The following can have an effect on cold soaked wings: temperature of fuel in fuel cells, temperature of fuel used for refuelling

and time since refuelling.

Critical surfaces are surfaces of the aircraft that shall be completely free of ice, snow, slush or frost before take-off. The critical surfaces shall be determined by the manufacturer.

De-icing is a procedure by which frost, ice, snow or slush is removed from an aircraft by use of a heated Aircraft De-icing Fluid (ADF), to provide surfaces free of contamination.

Freezing fog (METAR code: FZFG) is a suspension of numerous minute super-cooled water droplets which freeze upon impact with the ground or other exposed objects, generally reducing the horizontal visibility to less than 1,000m.

Freezing drizzle (METAR Code: FZDZ) is a fairly uniform precipitation composed exclusively of fine drops (diameter less than 0.5mm) very close together which freeze on impact with the ground or other objects.

Freezing rain (METAR Code: FZRA) is a precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects, either in the form of drops of greater than 0.5mm diameter or smaller drops which, in contrast to drizzle, are widely separated.

Frost is a deposit of ice crystals that form from ice-saturated air at temperatures below 0°C by direct sublimation on the ground or other exposed objects.

- **Hoar frost** (a rough white deposit of crystalline appearance formed at temperatures below freezing point) usually occurs on exposed surfaces on a cold and cloudless night. It frequently melts after sunrise; if it does not, an approved de-icing fluid should be applied in sufficient quantities to remove the deposit. Generally, hoar frost cannot be cleared by brushing alone.
- **Thin hoar frost** is a uniform white deposit of fine crystalline texture, which is thin enough to distinguish surface feature underneath, such as paint lines, markings or lettering.

Frost point is the temperature at which moisture in the air will condense as a layer of frost on an exposed surface.

Glaze ice or **rain ice** is a smooth coating of clear ice formed when the temperature is below freezing and freezing rain contacts a solid surface. It can only be removed by de-icing fluid.

Hail (METAR Code: GR) is a precipitation of small balls or pieces of ice, with a diameter ranging from 5 to 50mm, falling either separately or agglomerated.

Holdover time is the estimated time anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of an aircraft, under the weather conditions mentioned in the guidelines for the holdover time. The holdover time commences at the beginning of the anti-icing (second) treatment.

Ice pellets (METAR Code: PE) is a precipitation of transparent or translucent pellets of ice, which are spherical or irregular, and which have a diameter of 5mm or less. The pellets of ice usually bounce when hitting hard ground.

Light freezing rain is a precipitation of liquid water particles which freezes upon impact with exposed objects, in the form of drops of more than 0.5mm which, in contrast to drizzle, are widely separated.

One step de/anti-icing is carried out with an anti-icing fluid, typically heated. The fluid used to de-ice the aircraft remains on the aircraft surfaces to provide limited anti-ice capability.

Rime ice is a rough white covering of ice deposited from fog at temperature below freezing. As the fog usually consists of super-cooled water drops, which only solidify on contact with a solid object, rime ice may form on the windward side or edges and not on the surfaces. It can generally be removed by brushing, but when surfaces, as well as edges, are covered it will be necessary to use an approved de-icing fluid

Sleet is a precipitation in the form of a mixture of rain and snow. For operation in light sleet, treat as light freezing rain.

Snow (METAR Code: SN): Precipitation of ice crystals, most of which are branched, star shaped, or mixed with unbranched crystals. At temperatures higher than about -5°C, the crystals are generally agglomerated into snowflakes.

- **Dry snow**: Snow which can be blown if loose or, if compacted by hand, will fall apart on release. Normally experienced when temperature is below freezing and can be brushed off aircraft easily.
- **Wet snow**: Snow which if compacted by hand will stick together. Normally experienced when temperature is above freezing and is more difficult to remove from aircraft structure than dry snow being sufficiently wet to adhere.
- **Compacted snow**: Snow which has been compressed into a solid mass that resists further compression and will hold together or break into chunks if picked up.

Snow grains (METAR Code: SG) is a precipitation of very small white and opaque grains of ice which are fairly flat or elongated, with a diameter of less than 1mm. When the grains hit hard surfaces they do not bounce or shatter.

Snow pellets (METAR Code: GS) is a precipitation of white and opaque grains of ice. These grains are spherical or sometimes conical. Their diameter is about 2 to 5mm.

Two step de/anti-icing consists of two distinct steps. The first step (de-icing) is followed by the second step (anti-icing), a separate overspray of anti-icing fluid applied to protect the relevant surfaces, thus providing maximum possible anti-ice capability.

8.2.3.4 OUTDOOR ACTIVITY: PROTECTION AT VERY LOW TEMPERATURES

Cold weather operations present a number of risks to staff engaged in outdoor activities such as aircraft external inspections.

Extremely low temperatures can cause freezing of the skin, as well as adherence of unprotected skin to metal surfaces. Wind strength affects the perceived temperature, e.g. a 10 knot wind at 0°C creates a perceived temperature of -5°C.

Contaminants such as ice and snow can cause ramp areas to become slippery, and any dampness transmitted to clothing will also increase the body's exposure to the cold. Wear suitable protective clothing where supplied. Where such clothing is not supplied, carry suitable personal clothing to ports where there is a possibility of very low temperatures.

De/anti-icing operations require additional equipment in close proximity to the aircraft. Although crew are not normally outside during the operation, de-icing may be carried out on aircraft in adjacent parking bays so be alert for additional apron traffic, fluid spray and slippery surfaces caused by pooling of de-icing fluid. Exposure to the fluid is not in itself inherently dangerous, but should be avoided where possible.

It is essential that crew exercise caution in this busy environment and dress appropriately for the temperature. Exposure to these conditions should be kept to the minimum practicable, with resolution of problems (e.g. technical defects) carried out in a more hospitable environment.

Wind Chill Temperature

Wind (knots)	Temperature (°C)									
	5	0	-5	-10	-15	-20	-25	-30	-35	-40
5	3	-3	-9	-15	-21	-27	-33	-39	-45	-51
10	1	-5	-11	-18	-24	-30	-36	-43	-49	-55
15	0	-6	-13	-19	-26	-32	-39	-45	-52	-58
20	-1	-7	-14	-20	-27	-34	-40	-47	-54	-60
25	-1	-8	-15	-21	-28	-35	-42	-48	-55	-62
30	-2	-9	-15	-22	-29	-36	-43	-50	-57	-64
35	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65
40	-2	-10	-17	-24	-31	-38	-45	-52	-59	-66
45	-3	-10	-17	-24	-31	-38	-46	-53	-60	-67
50	-3	-10	-18	-25	-32	-39	-46	-54	-61	-68

Frostbite Times

30 minutes

10 minutes

5 minutes

Enter the table with wind speed and temperature to find the Equivalent Temperature, i.e. "What it feels like".

Progressively darker shading indicates reducing time until the onset of frostbite to exposed skin.

8.2.3.5 EXTERIOR SAFETY INSPECTION

CONDITIONS CONDUCIVE TO ICING

Many atmospheric and ambient conditions can cause aircraft icing on the ground. The principal conditions are frost, snow, freezing fog, freezing drizzle, freezing rain, rain, drizzle, fog or high humidity combined with the cold soak effect.

The latter type of icing can occur at ambient temperatures well above freezing point. It is also important to understand that mixed and changing atmospheric conditions can overlap during aircraft operations on the ground, requiring constant vigilance by both flight and ground crews. Clear ice or failed anti-icing fluid can be very difficult to identify, and under certain conditions can only be detected by touching the surface.

Other conditions that affect ice contamination on aircraft surfaces are:

a. Operations on ramps, taxiways and runways contaminated by water, slush or snow. These substances may be deposited on the aircraft surfaces by wind, aircraft operations, jet blast, or ground support equipment.

b. Warm aircraft surfaces exposed to frozen precipitation during below-freezing conditions. The warm aircraft surfaces may cause melting and re-freezing of the precipitation.

c. The frost point, which is higher than the dew point at a given humidity. The frost point and the dew point are the same at 0ºC; at a dew point of -40ºC, the frost point is 3.2ºC warmer (-36.8ºC). The following table provides further examples of the correlation between dew point and frost point.

Dew Point Temperature (°C)	Frost Point Temperature (°C)
0	0.0
-5	-4.4
-10	-8.9
-15	-13.5
-20	-18.0
-25	-22.7
-30	-27.3
-35	-32.1
-40	-36.8

In many cases, de/anti-icing procedures may be ineffective in providing sufficient protection for continued operations. This can occur when there is freezing rain, freezing drizzle, heavy snow, or any combination where high water content is present in freezing precipitation.

At very low temperatures (below approximately -30°C), some heated Type I fluids are no longer effective, and other methods of frozen contamination removal must be used.

THE WALKROUND

Although removal of surface snow, ice or frost is normally a maintenance function, the crew should be alert during pre-flight preparation to inspect areas where surface snow or frost could change or affect normal system operations. Refer to aircraft FCOM for specific procedure.

Take-off with light coatings of frost up to 1/8in (3mm) in thickness on lower wing surfaces due to cold fuel is permissible; however, all leading edge devices, all control surfaces, and upper wing surfaces must be free of ice and snow.

Thin hoar frost is acceptable on the upper surface of the fuselage provided all vents and ports are clear. Thin hoarfrost is a uniform white deposit of fine crystalline texture which usually occurs on exposed surfaces on a cold and cloudless night, and which is thin enough to distinguish surface features underneath, such as paint lines, markings or lettering.

CAUTION: Lower wing surface ice ridges of any size are not acceptable.

Water run-down resulting from snow removal may re-freeze immediately forward of static ports and cause an ice build-up which causes disturbed airflow over the static ports and causes erroneous static reading even though static ports themselves are clear.

A check for the presence of clear ice, frequently caused by cold soaked fuel in the wing tanks, may be required during rain or high humidity conditions and for a certain type of aircraft. This type of ice is very difficult to detect, especially in conditions of poor lighting or when the wings are wet. The aircraft should be closely inspected when operating under these conditions, checking both upper and lower wing surfaces.

APU OPERATION

The APU door/flap must be free of impacted snow or ice and unobstructed prior to APU start.

8.2.3.6 GROUND DE/ANTI-ICING PROCEDURES

AUTHORITY

The Commander has the authority to request de-icing or anti-icing whenever he considers it appropriate. The request should be communicated to ground crew as soon as possible to allow sufficient time to organise and conduct the additional checks and procedures.

METHOD OF APPLICATION

De/anti-icing procedures at Dragonair outstations are carried out in accordance with the Cathay Pacific Engineering Cold Weather Procedures Manual. The fluid type, fluid/water mix and application method (one step or two step) will be selected by the de/anti-icing agent taking into account the weather conditions and LOUT.

De/anti-icing an aircraft as close as possible to its departure time and/or departure runway provides the minimum interval between de/anti-icing and takeoff, thus conserving holdover time. When using the fluid method, de/anti-icing is generally conducted once all passengers are on board and doors closed.

De/anti-icing is generally carried out by using fluids dispensed from spray nozzles mounted on specially designed de/anti-icing trucks. Other methods include gantry spraying systems, small portable spraying equipment, mechanical means (brushes, ropes, non-metallic shovels, etc.), infra-red radiation and forced air.

FLUID TYPES

Type I Fluids

Type I fluids are de-icing fluids having a high glycol content and low viscosity. These fluids are formulated to assist in removing ice, snow and frost from the exterior surfaces of aircraft. They also provide a short period of anti-icing protection.

Type II Fluids

Type II fluids are de/anti-icing fluids and are similar in composition to de-icing fluids, except that they have a minimum 50% glycol content and contain polymeric thickeners. They are formulated to prevent formation of unabsorbed frozen contamination for a longer period of time than de-icing fluids; however, the protection is still for a limited period of time.

Type III Fluids

Type III fluids are not approved for use on Dragonair aircraft.

Type IV Fluids

Type IV fluids are modified Type II fluids with longer holdover times under certain conditions.

Although Type I fluids may be used for anti-icing, Type II, III and IV fluids are typically used in the anti-icing role because they can last for a significantly longer period of time than the Type I fluids.

FLUID COLOUR

De/anti-icing fluids contain a dye to assist in uniform application, as well as to identify the type of fluid:

- Type I fluids: Orange
- Type II fluids: Colourless, or pale straw
- Type III fluids: Light yellow
- Type IV fluids: Emerald green

OPERATIONAL CONSIDERATIONS

De/anti-icing fluids are only required until the aircraft becomes airborne, after which the on-board de/anti-icing system then operate.

The following factors will affect the effectiveness of the fluid:

- Fluid Concentration

As the concentration of the fluid is increased, the freezing point decreases (until it nears 100% concentration). Fluid concentration may be reduced by suspended water droplets, or intentionally by mixing with water for de-icing.

- Freezing Point

  The freezing point of a fluid is normally a function of the glycol concentration, and is assessed in the field. A temperature buffer is then applied to cater for absorption of precipitation, for errors in application, and for the influence of variations in the weather conditions.

- Lowest Operational Use Temperature

  De/anti-icing fluids are tested and qualified for operation within a specific temperature envelope. The LOUT for a given fluid is the higher of:

  i. The lowest temperature at which the fluid meets the aerodynamic acceptance test for a given aircraft type, or

  ii. The actual freezing point of the fluid plus its freezing point buffer (10°C for a Type I fluid, and 7°C for a Type II, III, or IV fluid).

  NOTE: Manufacturers state that a fluid must not be used when the outside air temperature or skin temperature is below the LOUT of the fluid.

- Viscosity

  Following the de-icing and/or anti-icing operation, any fluid remaining on the airframe has an effect on the aircraft's aerodynamic performance. As temperature decreases, fluids generally become more viscous and have an increased negative effect on the aerodynamics.

  As the aircraft gains speed during take-off, the aerodynamic shear forces cause the fluids to flow off the aircraft's surfaces. The amount of fluid that is sheared off the aircraft depends upon the speeds reached during the take-off run and the time it took to reach those speeds.

COCKPIT PREPARATION

Confirm whether de/anti-icing will be at the parking bay or at a remote bay, and if delays are occuring or expected.

Confirm the type of de/anti-icing fluid, mixture ratio (if applicable) and method being used (one step or two step).

Monitor the ATIS or contact Ground for the latest runway conditions and braking action, and obtain ACARS RTOW data accordingly.

Use the Holdover Time guidelines to determine a holdover time for the current conditions.

Consider making a PA to the passengers to inform them of the requirement for de/anti-icing.

Refer to FCOMs for fleet-specific procedures.

PROCEDURE

De/anti-icing fluids are applied close to the skin of the aircraft to minimise heat loss. In order to achieve a a representative inspection, the aircraft wings must be sprayed first. Therefore the wings become the most critical surface and if they are clean when a Pre Take off Inspection is required, it can be assumed that the rest of the aircraft is clean.

During de/anti-icing, the slats and flaps should be retracted. Should the surfaces be extended, tracks, actuators, hinges etc. should be visually inspected to be free of contaminants before retraction.

The aircraft must be treated symmetrically.

CAUTION: The repeated application of Type II or IV fluids, without subsequent application of Type I or hot water, may cause a residue to collect in aerodynamically quiet areas. This residue may rehydrate or freeze under

certain conditions, blocking or impeding critical flight control systems. Engineering Department monitor the application of de/anti-icing fluid to determine whether additional checks or maintenance action are required.

8.2.3.7 HOLDOVER TIMES (HOT)

The Commander is responsible for the application of the data contained within the HOT tables. The cells within the HOT tables will either have a time range or a single time. Where single times are annotated no adjustments are necessary for precipitation rates as specific conditions are already taken into account. Where a time range is annotated, Flight Crew will need to determine the appropriate holdover time dependent upon precipitation rate.

Flight Crew and Ground Crew, however, should recognise that the holdover charts cannot allow for all conditions and that nothing replaces good judgement. The charts are also used in conjunction with either a Pre Take-off Contamination Inspection, or a Pre Take-off Contamination Check if required. Holdover time charts as illustrated are the only approved method for determining the range of holdover times for the applicable conditions. Generic holdover charts for Type I, II and Type IV fluids are to be used when specific fluid data is not available.

Numerous factors that can affect the de/anti-icing capabilities and HOT of de/anti-icing fluids have been identified. These factors include, but are not limited to:

a. Type and rate of precipitation

b. Ambient temperature

c. Relative Humidity

d. Wind direction and velocity

e. Aircraft surface (skin) temperature, and

f. De/anti-icing fluid (type, fluid/water ratio, temperature)

As a result, an exact time for the protection provided by an anti-icing fluid is difficult to establish and therefore the HOT tables should be used as guidelines only.

Typically, each cell of the HOT chart represents the performance times in which the fluid provides acceptable protection for varying precipitation intensities for the following conditions:

a. Freezing fog

b. Snow, snow grains or snow pellets

c. Freezing drizzle

d. Light freezing rain

e. Rain on cold-soaked wing

HOT values have not been assessed for hail, moderate and heavy freezing rain, or heavy snow.

The lower HOT value in a cell which contains a range of times presents information for moderate precipitation conditions. The higher HOT value is representative of fluid performance for light precipitation conditions.

CAUTION: De-icing fluid ingestion may cause damage to the engine/APU internal surfaces and contaminate the pneumatic systems. Therefore precautions must be taken to minimise de-icing fluid ingestion with engines running.

Under NO circumstances can an aircraft that has been anti-iced receive a further coating of cold neat fluid directly on top of the existing film. Should it be necessary for an aircraft to be re-protected prior to flight then the external surfaces must first be de-iced with hot mixed fluid before a further application of anti-ice fluid is made.

Once the HOT time clock has been started it must not be stopped for intermittent

precipitation. Intermittent precipitation conditions, during ground icing operations, are a common occurrence at some airports. As precipitation falls on an aircraft that has been anti-iced, the fluid is being diluted. The more diluted the fluid becomes, the more readily it flows off the aircraft, and the higher the freezing point becomes. Even if the precipitation stops falling, the diluted fluid will continue to flow off the aircraft due to gravity. There is no practical way to determine how much residual anti-icing fluid is on the wing under these circumstances. HOT values under these conditions have not been assessed. Therefore, after the anti-icing HOT clock has been started, it must not be stopped. HOT credit cannot be given due to the fact that the precipitation has temporarily stopped falling.

8.2.3.8 AML ENTRY

When aircraft have been de/anti-iced, Engineering should complete the relevant de/anti-icing field in the Aircraft Maintenance Logbook. However, along with refueling and oil quantity columns, this is not part of the Airworthiness Certificate of Release. As such, the Aircraft Commander is approved to complete the de/anti-icing field in the absence of a qualified engineer on the flight deck, saving the need to re-open aircraft doors after the de/anti-icing procedure.

8.2.3.9 INSPECTION IMMEDIATELY PRIOR TO TAKE-OFF

GENERAL

An inspection need not be completed until the lower (more limiting) time in the HOT cell has been exceeded, provided conditions do not exceed those represented by the table. When making this judgement, the impact of other factors (e.g. jet blast) shall be taken into account.

If there is doubt surrounding the conditions associated with using the lowest time as decision making criteria, an inspection prior to take-off would be prudent.

PRE TAKE-OFF CONTAMINATION INSPECTION

A Pre-take-off Contamination Inspection shall be completed if the elapsed time is within the range of time given in the HOT cell for the conditions present.

The check will consist of a visual inspection performed from the cabin of the upper wing surfaces within 5 minutes prior to the commencement of take-off. If evidence of ice, snow or frost accretion is observed, or any doubt exists over the condition of the critical surfaces, the aircraft should return for additional de/anti-icing.

PRE TAKE-OFF CONTAMINATION CHECK

Should the higher (less limiting) time in the HOT cell be exceeded, the only option available to allow take-off is a Pre Take-off Contamination Check which must be conducted externally by Ground Crew. If it is not possible to conduct this check, or it is not possible to take-off within 5 minutes of conducting the check, the aircraft must return for de/anti-icing.

EXAMPLE

Fluid Type	SAE Type IV (Generic), 75/25 mix
Weather	-1°C, Snow
Holdover Time	0:30 to 0:55
<30 minutes	No inspection required (consider other factors)
30-55 minutes	Pre Take-off Contamination Inspection (internal) required
>55 minutes	Pre Take-off Contamination Check (external) required

8.2.3.10 HOLDOVER TIME (HOT) TABLES

TABLE 1 - ACTIVE FROST HOLDOVER GUIDELINES

ACTIVE FROST HOLDOVER GUIDELINES FOR WINTER 2011-2012

THE RESPONSIBILITY FOR THE APPLICATION OF THESE DATA REMAINS WITH THE USER

Outside Air Temperature		Approximate Holdover Times (hours:minutes)
Degrees Celsius	Degrees Fahrenheit	Active Frost
		Type I[1,2]
-1 and above	30 and above	0:35[5]
below -1 to -3	below 30 to 27	
below -3 to -10	below 27 to 14	
below -10 to -14	below 14 to 7	
below -14 to -21	below 7 to -6	
below -21 to -25	below -6 to -13	

Outside Air Temperature		Concentration Neat Fluid/Water (Volume %/Volume %)	Approximate Holdover Times (hours:minutes)		
			Active Frost		
Degrees Celsius	Degrees Fahrenheit		Type II[3,4]	Type III[3,4]	Type IV[3,4]
-1 and above	30 and above	100/0	8:00	2:00	12:00
		75/25	5:00	1:00	5:00
		50/50	3:00	0:30	3:00
below -1 to -3	below 30 to 27	100/0	8:00	2:00	12:00
		75/25	5:00	1:00	5:00
		50/50	1:30	0:30	3:00
below -3 to -10	below 27 to 14	100/0	8:00	2:00	10:00
		75/25	5:00	1:00	5:00
below -10 to -14	below 14 to 7	100/0	6:00	2:00	6:00
		75/25	1:00	1:00	1:00
below -14 to -21	below 7 to -6	100/0	6:00	2:00	6:00
below -21 to -25	below -6 to -13	100/0	2:00	2:00	4:00

NOTES

1 Type I Fluid / Water Mixture is selected so that the freezing point of the mixture is at least 10°C (18°F) below outside air temperature.
2 May be used below -25°C (-13°F) provided the lowest operational use temperature (LOUT) of the fluid is respected.
3 These fluids may not be used below -25°C (-13°F) in active frost conditions.
4 Ensure that the lowest operational use temperature (LOUT) is respected.
5 Value applicable to composite surfaces.

CAUTIONS

- **Fluids used during ground de/anti-icing do not provide in-flight icing protection.**

TABLE 2 - SAE TYPE I FLUID – GENERIC

SAE TYPE I FLUID HOLDOVER GUIDELINES ON COMPOSITE WING SURFACES FOR WINTER 2011-2012[1]

These holdover times apply to newer aircraft with critical surfaces constructed predominantly or entirely of composite materials.
THE RESPONSIBILITY FOR THE APPLICATION OF THESE DATA REMAINS WITH THE USER

Outside Air Temperature[2]		Approximate Holdover Times Under Various Weather Conditions (minutes)							
			Snow, Snow Grains or Snow Pellets						
Degrees Celsius	Degrees Fahrenheit	Freezing Fog	Very Light[3]	Light[3]	Moderate	Freezing Drizzle[4]	Light Freezing Rain	Rain on Cold Soaked Wing[5]	Other[6]
-3 and above	27 and above	9 – 16	12	6 – 12	3 – 6	8 – 13	4 – 6	1 – 5	CAUTION: No holdover time guidelines exist
below -3 to -6	below 27 to 21	6 – 8	11	5 – 11	2 – 5	5 – 9	4 – 6		
below -6 to -10	below 21 to 14	4 – 8	9	5 – 9	2 – 5	4 – 7	2 – 5		
below -10	below 14	4 – 7	7	4 – 7	2 – 4				

NOTES

1 Type I Fluid / Water Mixture is selected so that the freezing point of the mixture is at least 10°C (18°F) below outside air temperature.
2 Ensure that the lowest operational use temperature (LOUT) is respected.
3 Use light freezing rain holdover times in conditions of very light or light snow mixed with light rain.
4 Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
5 No holdover time guidelines exist for this condition for 0°C (32°F) and below.
6 Heavy snow, ice pellets, moderate and heavy freezing rain, and hail.

CAUTIONS

- **The only acceptable decision-making criterion, for takeoff without a pre-takeoff contamination inspection, is the shorter time within the applicable holdover time table cell.**
- **The time of protection will be shortened in heavy weather conditions, heavy precipitation rates, or high moisture content.**
- **High wind velocity or jet blast may reduce holdover time.**
- **Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.**
- **Fluids used during ground de/anti-icing do not provide in-flight icing protection.**

TABLE 3 - SAE TYPE II FLUID – GENERIC

SAE TYPE II FLUID HOLDOVER GUIDELINES FOR WINTER 2011-2012[1]

THE RESPONSIBILITY FOR THE APPLICATION OF THESE DATA REMAINS WITH THE USER

Outside Air Temperature[2]		Type II Fluid Concentration Neat Fluid/Water (Volume %/Volume %)	Approximate Holdover Times Under Various Weather Conditions (hours:minutes)					
Degrees Celsius	Degrees Fahrenheit		Freezing Fog	Snow, Snow Grains or Snow Pellets[3]	Freezing Drizzle[4]	Light Freezing Rain	Rain on Cold Soaked Wing[5]	Other[6]
-3 and above	27 and above	100/0	0:35 – 1:30	0:20 – 0:45	0:30 – 0:55	0:15 – 0:30	0:08 – 0:40	
		75/25	0:25 – 1:00	0:15 – 0:30	0:20 – 0:45	0:10 – 0:25	0:05 – 0:25	
		50/50	0:15 – 0:30	0:05 – 0:15	0:08 – 0:15	0:05 – 0:09	CAUTION: No holdover time guidelines exist	
below -3 to -14	below 27 to 7	100/0	0:20 – 1:05	0:15 – 0:30	0:20 – 0:45[7]	0:10 – 0:20[7]		
		75/25	0:25 – 0:50	0:10 – 0:20	0:15 – 0:30[7]	0:08 – 0:15[7]		
below -14 to -25 or LOUT	below 7 to -13 or LOUT	100/0	0:15 – 0:35	0:15 – 0:30				

NOTES

1 Based on the lowest holdover times of the fluids listed in Table 5-2 and Table 5-4.
2 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I when Type II fluid cannot be used.
3 Use light freezing rain holdover times in conditions of light snow mixed with light rain.
4 Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
5 No holdover guidelines exist for this condition for 0°C (32°F) and below.
6 Heavy snow, ice pellets, moderate and heavy freezing rain, and hail.
7 These holdover times only apply to outside air temperatures to -10°C (14°F) under freezing drizzle and light freezing rain.

CAUTIONS

- **The only acceptable decision-making criterion, for takeoff without a pre-takeoff contamination inspection, is the shorter time within the applicable holdover time table cell.**
- **The time of protection will be shortened in heavy weather conditions, heavy precipitation rates, or high moisture content.**
- **High wind velocity or jet blast may reduce holdover time.**
- **Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.**
- **Fluids used during ground de/anti-icing do not provide in-flight icing protection.**

TABLE 3a – NEWAVE AEROCHEMICAL TYPE II FLUID – FCY-2

NEWAVE AEROCHEMICAL TYPE II FLUID HOLDOVER GUIDELINES FOR WINTER 2011-2012[1]

FCY-2

THE RESPONSIBILITY FOR THE APPLICATION OF THESE DATA REMAINS WITH THE USER

Outside Air Temperature[2]		Type II Fluid Concentration Neat Fluid/Water (Volume %/Volume %)	Approximate Holdover Times Under Various Weather Conditions (hours:minutes)					
Degrees Celsius	Degrees Fahrenheit		Freezing Fog	Snow, Snow Grains or Snow Pellets[3]	Freezing Drizzle[4]	Light Freezing Rain	Rain on Cold Soaked Wing[5]	Other[6]
-3 and above	27 and above	100/0	1:15 – 2:25	0:30 – 0:55	0:35 – 1:05	0:25 – 0:35	0:08 – 0:45	CAUTION: No holdover time guidelines exist
		75/25	0:50 – 1:30	0:20 – 0:40	0:25 – 0:45	0:15 – 0:25	0:05 – 0:25	
		50/50	0:25 – 0:35	0:15 – 0:25	0:10 – 0:20	0:07 – 0:10		
below -3 to -14	below 27 to 7	100/0	0:45 – 1:30	0:15 – 0:30	0:20 – 0:45[7]	0:15 – 0:20[7]		
		75/25	0:30 – 1:05	0:10 – 0:20	0:15 – 0:30[7]	0:08 – 0:15[7]		
below -14 to -28	below 7 to -18.4	100/0	0:25 – 0:35	0:15 – 0:30				

NOTES

1 These holdover times are derived from tests of this fluid having a viscosity as listed in Table 9.
2 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I when Type II fluid cannot be used.
3 Use light freezing rain holdover times in conditions of light snow mixed with light rain.
4 Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
5 No holdover guidelines exist for this condition for 0°C (32°F) and below.
6 Heavy snow, ice pellets, moderate and heavy freezing rain, and hail.
7 These holdover times only apply to outside air temperatures to -10°C (14°F) under freezing drizzle and light freezing rain.

CAUTIONS

- **The only acceptable decision-making criterion, for takeoff without a pre-takeoff contamination inspection, is the shorter time within the applicable holdover time table cell.**
- **The time of protection will be shortened in heavy weather conditions, heavy precipitation rates, or high moisture content.**
- **High wind velocity or jet blast may reduce holdover time.**
- **Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.**
- **Fluids used during ground de/anti-icing do not provide in-flight icing protection.**

TABLE 4a - SAE TYPE IV FLUID – GENERIC

SAE TYPE IV FLUID HOLDOVER GUIDELINES FOR WINTER 2011-2012[1]

THE RESPONSIBILITY FOR THE APPLICATION OF THESE DATA REMAINS WITH THE USER

Outside Air Temperature[2]		Type IV Fluid Concentration Neat Fluid/Water (Volume %/Volume %)	Approximate Holdover Times Under Various Weather Conditions (hours:minutes)					
Degrees Celsius	Degrees Fahrenheit		Freezing Fog	Snow, Snow Grains or Snow Pellets[3]	Freezing Drizzle[4]	Light Freezing Rain	Rain on Cold Soaked Wing[5]	Other[6]
-3 and above	27 and above	100/0	1:20 – 3:10	0:35 – 1:15	0:45 – 1:30	0:25 – 0:40	0:10 – 1:15	
		75/25	1:00 – 1:45	0:30 – 0:55	0:35 – 1:05	0:25 – 0:35	0:09 – 0:50	
		50/50	0:15 – 0:35	0:07 – 0:15	0:10 – 0:20	0:07 – 0:10	CAUTION: No holdover time guidelines exist	
below -3 to -14	below 27 to 7	100/0	0:20 – 1:20	0:25 – 0:50	0:20 – 1:00[7]	0:10 – 0:25[7]		
		75/25	0:25 – 0:50[8]	0:20 – 0:35[8]	0:15 – 1:00[7,8]	0:10 – 0:25[7,8]		
below -14 to -25 or LOUT	below 7 to -13 or LOUT	100/0	0:15 – 0:40[9]	0:15 – 0:30[9]				

NOTES

1 Based on the lowest holdover times of the fluids listed in Table 5-4.
2 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I when Type IV fluid cannot be used.
3 Use light freezing rain holdover times in conditions of light snow mixed with light rain.
4 Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
5 No holdover guidelines exist for this condition for 0°C (32°F) and below.
6 Heavy snow, ice pellets, moderate and heavy freezing rain, and hail.
7 These holdover times only apply to outside air temperatures to -10°C (14°F) under freezing drizzle and light freezing rain.
8 For Lyondell Arctic Shield, the temperature is limited to -9.5°C (14.9°F); and for Cryotech Polar Guard, the temperature is limited to -5.5°C (22.1°F). If the fluid is unknown, these holdover times only apply down to -5.5°C (22.1°F).
9 For Cryotech Polar Guard, the temperature is limited to -23.5°C (-10.3°F); for Dow Ultra+, the temperature is limited to -24°C (-11.2°F); and for Lyondell Arctic Shield, the temperature is limited to -24.5°C (-12.1°F). If the fluid is unknown, these holdover times only apply down to -23.5°C (-10.3°F).

CAUTIONS

- **The only acceptable decision-making criterion, for takeoff without a pre-takeoff contamination inspection, is the shorter time within the applicable holdover time table cell.**
- **The time of protection will be shortened in heavy weather conditions, heavy precipitation rates, or high moisture content.**
- **High wind velocity or jet blast may reduce holdover time.**
- **Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.**
- **Fluids used during ground de/anti-icing do not provide in-flight icing protection.**

TABLE 4b - CLARIANT TYPE IV FLUID – SAFEWING MP IV LAUNCH

CLARIANT TYPE IV FLUID HOLDOVER GUIDELINES FOR WINTER 2011-2012[1]
SAFEWING MP IV LAUNCH

THE RESPONSIBILITY FOR THE APPLICATION OF THESE DATA REMAINS WITH THE USER

Outside Air Temperature[2]		Type IV Fluid Concentration Neat Fluid/Water (Volume %/Volume %)	Approximate Holdover Times Under Various Weather Conditions (hours:minutes)					
Degrees Celsius	Degrees Fahrenheit		Freezing Fog	Snow, Snow Grains or Snow Pellets[3]	Freezing Drizzle[4]	Light Freezing Rain	Rain on Cold Soaked Wing[5]	Other[6]
-3 and above	27 and above	100/0	4:00 – 4:00	1:05 – 1:45	1:30 – 2:00	1:00 – 1:40	0:15 – 1:40	CAUTION: No holdover time guidelines exist
		75/25	3:40 – 4:00	1:00 – 1:45	1:40 – 2:00	0:45 – 1:15	0:10 – 1:45	
		50/50	1:25 – 2:45	0:25 – 0:45	0:30 – 0:50	0:20 – 0:25		
below -3 to -14	below 27 to 7	100/0	1:00 – 1:55	0:50 – 1:20	0:35 – 1:40[7]	0:25 – 0:45[7]		
		75/25	0:40 – 1:20	0:45 – 1:25	0:25 – 1:10[7]	0:25 – 0:45[7]		
below -14 to -28.5	below 7 to -19.3	100/0	0:30 – 0:50	0:15 – 0:30				

NOTES

1 These holdover times are derived from tests of this fluid having a viscosity as listed in Table 9.
2 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I when Type IV fluid cannot be used.
3 Use light freezing rain holdover times in conditions of light snow mixed with light rain.
4 Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
5 No holdover guidelines exist for this condition for 0°C (32°F) and below.
6 Heavy snow, ice pellets, moderate and heavy freezing rain, and hail.
7 These holdover times only apply to outside air temperatures to -10°C (14°F) under freezing drizzle and light freezing rain.

CAUTIONS

- **The only acceptable decision-making criterion, for takeoff without a pre-takeoff contamination inspection, is the shorter time within the applicable holdover time table cell.**
- **The time of protection will be shortened in heavy weather conditions, heavy precipitation rates, or high moisture content.**
- **High wind velocity or jet blast may reduce holdover time.**
- **Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.**
- **Fluids used during ground de/anti-icing do not provide in-flight icing protection.**

TABLE 4c – KILFROST TYPE IV FLUID - ABC-S

KILFROST TYPE IV FLUID HOLDOVER GUIDELINES FOR WINTER 2011-2012[1]
ABC-S

THE RESPONSIBILITY FOR THE APPLICATION OF THESE DATA REMAINS WITH THE USER

Outside Air Temperature[2]		Type IV Fluid Concentration Neat Fluid/Water (Volume %/Volume %)	Approximate Holdover Times Under Various Weather Conditions (hours:minutes)						
Degrees Celsius	Degrees Fahrenheit		Freezing Fog	Snow, Snow Grains or Snow Pellets[3]	Freezing Drizzle[4]	Light Freezing Rain	Rain on Cold Soaked Wing[5]	Other[6]
-3 and above	27 and above	100/0	2:35 – 4:00	1:00 – 1:40	1:20 – 1:50	1:00 – 1:25	0:20 – 1:15	CAUTION: No holdover time guidelines exist
		75/25	1:05 – 1:45	0:30 – 0:55	0:45 – 1:10	0:35 – 0:50	0:10 – 0:50	
		50/50	0:20 – 0:35	0:07 – 0:15	0:15 – 0:20	0:08 – 0:10		
below -3 to -14	below 27 to 7	100/0	0:45 – 2:05	0:45 – 1:20	0:20 – 1:00[7]	0:10 – 0:30[7]		
		75/25	0:25 – 1:00	0:25 – 0:50	0:20 – 1:10[7]	0:10 – 0:35[7]		
below -14 to -28	below 7 to -18.4	100/0	0:20 – 0:40	0:15 – 0:30				

NOTES

1 These holdover times are derived from tests of this fluid having a viscosity as listed in Table 9.
2 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I when Type IV fluid cannot be used.
3 Use light freezing rain holdover times in conditions of light snow mixed with light rain.
4 Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
5 No holdover guidelines exist for this condition for 0°C (32°F) and below.
6 Heavy snow, ice pellets, moderate and heavy freezing rain, and hail.
7 These holdover times only apply to outside air temperatures to -10°C (14°F) under freezing drizzle and light freezing rain.

CAUTIONS

- **The only acceptable decision-making criterion, for takeoff without a pre-takeoff contamination inspection, is the shorter time within the applicable holdover time table cell.**
- **The time of protection will be shortened in heavy weather conditions, heavy precipitation rates, or high moisture content.**
- **High wind velocity or jet blast may reduce holdover time.**
- **Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.**
- **Fluids used during ground de/anti-icing do not provide in-flight icing protection.**

TABLE 4d – KILFROST TYPE IV FLUID - ABC-S PLUS

KILFROST TYPE IV FLUID HOLDOVER GUIDELINES FOR WINTER 2011-2012[1]

ABC-S PLUS

THE RESPONSIBILITY FOR THE APPLICATION OF THESE DATA REMAINS WITH THE USER

Outside Air Temperature[2]		Type IV Fluid Concentration Neat Fluid/Water (Volume %/Volume %)	Approximate Holdover Times Under Various Weather Conditions (hours:minutes)					
Degrees Celsius	Degrees Fahrenheit		Freezing Fog	Snow, Snow Grains or Snow Pellets[3]	Freezing Drizzle[4]	Light Freezing Rain	Rain on Cold Soaked Wing[5]	Other[6]
-3 and above	27 and above	100/0	2:10 – 4:00	1:15 – 2:00	1:50 – 2:00	1:05 – 2:00	0:25 – 2:00	CAUTION: No holdover time guidelines exist
		75/25	1:25 – 2:40	0:45 – 1:15	1:00 – 1:20	0:30 – 0:50	0:10 – 1:20	
		50/50	0:30 – 0:55	0:15 – 0:30	0:15 – 0:40	0:15 – 0:20		
below -3 to -14	below 27 to 7	100/0	0:55 – 3:30	1:00 – 1:45	0:25 – 1:35[7]	0:20 – 0:30[7]		
		75/25	0:45 – 1:50	0:35 – 1:00	0:20 – 1:10[7]	0:15 – 0:25[7]		
below -14 to -28	below 7 to -18.4	100/0	0:40 – 1:00	0:15 – 0:30				

NOTES

1 These holdover times are derived from tests of this fluid having a viscosity as listed in Table 9.
2 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I when Type IV fluid cannot be used.
3 Use light freezing rain holdover times in conditions of light snow mixed with light rain.
4 Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
5 No holdover guidelines exist for this condition for 0°C (32°F) and below.
6 Heavy snow, ice pellets, moderate and heavy freezing rain, and hail.
7 These holdover times only apply to outside air temperatures to -10°C (14°F) under freezing drizzle and light freezing rain.

CAUTIONS

- **The only acceptable decision-making criterion, for takeoff without a pre-takeoff contamination inspection, is the shorter time within the applicable holdover time table cell.**
- **The time of protection will be shortened in heavy weather conditions, heavy precipitation rates, or high moisture content.**
- **High wind velocity or jet blast may reduce holdover time.**
- **Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.**
- **Fluids used during ground de/anti-icing do not provide in-flight icing protection.**

TABLE 5 - CURRENTLY QUALIFIED FLUIDS (2011-12)

LIST OF FLUIDS TESTED FOR ANTI-ICING PERFORMANCE AND AERODYNAMIC ACCEPTANCE (2011-2012)

Table 5-1: Tested Type I De/Anti-icing Fluids[1] [2]

#	Company Name	Fluid Name	Expiry (Y-M-D)
1-1	ABAX Industries	DE-950	12-06-25
1-2	ABAX Industries	DE-950 Colorless	12-06-26
1-3	Arcton Ltd.	Arctica DG ready-to-use	13-04-08
1-4	Aviation Shaanxi High-Tech Physical Co. Ltd.	Cleanwing I	12-01-06
1-5	Aviation Xi'an High-Tech Physical Co. Ltd.	KHF-1	11-09-20
1-6	*Battelle Memorial Institute*	*D^3: Degradable by Design™ ADF1006A*	*08-01-13*[3]
1-7	Beijing Phoenix Air Traffic Product Development and Trading Co.	CBSX-1	12-04-21
1-8	Beijing Wangye Aviation Chemical Product Co.	KLA-1	11-09-20
1-9	Beijing Wangye Aviation Chemical Product Co.	*YJF-1*	*09-02-23*[3]
1-10	*Clariant Produkte (Deutschland) GmbH*	*Safewing MP I 1938 TF*	*08-08-21*[3]
1-11	*Clariant Produkte (Deutschland) GmbH*	*Safewing MP I 1938 TF PreMix 60% i.g. ready-to-use (multiple location)*	*07-09-14*[3]
1-12	Clariant Produkte (Deutschland) GmbH	Safewing MP I 1938 ECO (80)	12-07-24
1-13	Clariant Produkte (Deutschland) GmbH	Safewing MP I 1938 ECO (80) PreMix 55% i.g. ready-to-use	13-05-20
1-14	Clariant Produkte (Deutschland) GmbH	Safewing MP I 1938 ECO	12-06-10
1-15	Clariant Produkte (Deutschland) GmbH	Safewing EG I 1996	12-06-10
1-16	Clariant Produkte (Deutschland) GmbH	Safewing EG I 1996 (88)	11-08-26
1-17	Clariant Produkte (Deutschland) GmbH	Safewing MP I ECO PLUS (80)	15-03-15
1-18	*Chemical Specialists Development Inc.*	*Prist Wing De-Icer*	*08-05-17*[3]
1-19	Cryotech Deicing Technology	Polar Plus	12-02-09
1-20	Dow Chemical Company	UCAR™ Aircraft Deicing Fluid Concentrate	11-09-10[4]
1-21	Dow Chemical Company	UCAR™ ADF XL54	13-01-21
1-22	Dow Chemical Company	UCAR™ PG Aircraft Deicing Fluid Concentrate	12-02-05
1-23	Dow Chemical Company	UCAR™ PG ADF Dilute 55/45	12-02-05
1-24	Harbin Aeroclean Aviation Tech Co. Ltd.	HJF-1	13-10-05
1-25	*HOC Industries*	*SafeTemp I ES*	*07-10-27*[3]
1-26	HOC Industries	SafeTemp ES Plus	14-11-16
1-27	Kilfrost Limited	DF Plus	11-09-27
1-28	Kilfrost Limited	DF Plus (80)	12-07-21
1-29	Kilfrost Limited	DF Plus (88)	11-09-27
1-30	Kilfrost Limited	DFsustain™	13-02-10
1-31	*Lyondell Chemical Company*	*ARCOPlus*	*08-02-14*[3]
1-32	Newave Aerochemical Co. Ltd.	FCY-1A	15-05-16
1-33	Octagon Process Inc.	EcoFlo Concentrate	13-07-06
1-34	Octagon Process Inc.	EcoFlo 2 Concentrate	13-07-25
1-35	Octagon Process Inc.	Octaflo EF Concentrate	14-03-25
1-36	Octagon Process Inc.	Octaflo EF-80	13-12-21
1-37	Octagon Process Inc.	Octaflo EG Concentrate	13-06-10

[1] The expiry date was determined based upon the earliest expiry date of the High Speed Aerodynamic Test or Water Spray Endurance Test. Fluids that are tested after the issuance of this list will appear in a later update.
[2] Concentrate fluids have also been tested at 50/50 (glycol/water) dilution.
[3] Fluids listed in italics have expired and will be removed from this listing four years after expiry.
[4] Currently in the test/re-retest process.

CAUTION

This table lists fluids that have been tested with respect to anti-icing performance (SAE AMS 1424 Paragraph 3.5.2) and aerodynamic acceptance (SAE AMS 1424 Paragraph 3.5.3) only! The aerodynamic acceptance tests were conducted by Anti-icing Materials International Laboratory, Université du Québec à Chicoutimi (a test facility certified as per SAE AS 5900). Website: http://www.uqac.ca/amil/index.htm.

The end user is responsible to confirm that other SAE AMS 1424 technical requirement tests, such as fluid stability, toxicity, materials compatibility, etc. have been conducted by contacting the fluid manufacturer.

TABLE 5 - CURRENTLY QUALIFIED FLUIDS (2011-12) (CONTINUED)

LIST OF FLUIDS TESTED FOR ANTI-ICING PERFORMANCE AND AERODYNAMIC ACCEPTANCE (2011-2012)

Table 5-2: Tested[1] Type II De/Anti-icing Fluids

#	Company Name	Fluid Name	Expiry (Y-M-D)
2-1	ABAX Industries	Ecowing 26	13-06-15
2-2	Aviation Shaanxi Hi-Tech Physical Chemical Co. Ltd.	Cleanwing II	11-02-19[3]
2-3	*Clariant Produkte (Deutschland) GmbH*	*Safewing MP II 1951*	*11-05-20[2]*
2-4	*Clariant Produkte (Deutschland) GmbH*	*Safewing MP II 2025 ECO*	*08-06-28[2]*
2-5	Clariant Produkte (Deutschland) GmbH	Safewing MP II FLIGHT	12-06-03
2-6	Kilfrost Limited	ABC-3	12-08-05
2-7	*Kilfrost Limited*	*ABC-2000*	*10-07-21[2]*
2-8	Kilfrost Limited	ABC-K Plus	12-09-08
2-9	Newave Aerochemical Co. Ltd.	FCY-2	13-05-18
2-10	*Octagon Process Inc.*	*E Max II*	*08-10-31[2]*

Table 5-3: Tested [1] Type III De/Anti-icing Fluids

Not applicable to Dragonair

Table 5-4: Tested [1] Type IV De/Anti-icing Fluids

#	Company Name	Fluid Name	Expiry (Y-M-D)
4-1	*ABAX Industries*	*AD-480*	*11-07-17[2]*
4-2	ABAX Industries	Ecowing AD-49	12-08-05
4-3	*Clariant Produkte (Deutschland) GmbH*	*Safewing MP IV 2001*	*08-06-26[2]*
4-4	Clariant Produkte (Deutschland) GmbH	Safewing MP IV LAUNCH	12-05-28
4-5	Cryotech Deicing Technology	Polar Guard	12-08-30
4-6	Cryotech Deicing Technology	Polar Guard Advance	13-07-25
4-7	*Dow Chemical Company*	*UCAR™ ADF/AAF ULTRA+*	*08-08-21[2]*
4-8	Dow Chemical Company	UCAR™ Endurance EG106 De/Anti-Icing Fluid	13-07-25
4-9	Dow Chemical Company	UCAR™ FlightGuard AD-480	12-06-15
4-10	Dow Chemical Company	UCAR™ FlightGuard AD-49	13-04-14
4-11	*Kilfrost Limited*	*ABC-4^{sustain}*	*11-07-28[2]*
4-12	*Kilfrost Limited*	*ABC-S*	*11-07-06[2]*
4-13	Kilfrost Limited	ABC-S Plus	13-06-30
4-14	*Lyondell Chemical Company*	*ARCTIC Shield™*	*10-05-21[2]*
4-15	Octagon Process Inc.	Max-Flight 04	12-07-13

[1] The expiry date was determined based upon the earliest expiry date of the High Speed Aerodynamic Test or Water Spray Endurance Test. Fluids that are tested after the issuance of this list will appear in a later update.
[2] Fluids listed in italics have expired and will be removed from this listing four years after expiry.
[3] Currently in the test/re-test process.

CAUTION

This table lists fluids that have been tested with respect to anti-icing performance (SAE AMS 1428 Paragraph 3.2.4) and aerodynamic acceptance (SAE AMS 1428 Paragraph 3.2.5) only! The aerodynamic acceptance tests were conducted by Anti-icing Materials International Laboratory, Université du Québec à Chicoutimi (a test facility certified as per SAE AS 5900). Website: http://www.uqac.ca/amil/index.htm.

The end user is responsible to confirm that other SAE AMS 1428 technical requirement tests, such as fluid stability, toxicity, materials compatibility, etc. have been conducted by contacting the fluid manufacturer.

TABLE 6 - VISIBILITY IN SNOW vs SNOWFALL INTENSITY

VISIBILITY IN SNOW VS. SNOWFALL INTENSITY CHART[1]

Lighting	Temperature Range		Visibility in Snow in Statute Miles (Metres)			
	°C	°F	Heavy	Moderate	Light	Very Light
Darkness	-1 and above	30 and above	≤1 (≤1600)	>1 to 2½ (≤1600 to 4000)	>2½ to 4 (≤4000 to 6400)	>4 (≤6400)
	Below -1	Below 30	≤3/4 (≤1200)	>3/4 to 1½ (≤1200 to 2400)	>1½ to 3 (≤2400 to 4800)	>3 (≤4800)
Daylight	-1 and above	30 and above	≤½ (≤800)	>½ to 1½ (≤800 to 2400)	>1½ to 3 (≤2400 to 4800)	>3 (≤4800)
	Below -1	Below 30	≤3/8 (≤600)	>3/8 to 7/8 (≤600 to 1400)	>7/8 to 2 (≤1400 to 3200)	>2 (≤3200)

1 Based on: *Relationship between Visibility and Snowfall Intensity* (TP 14151E), Transportation Development Centre, Transport Canada, November 2003; and *Theoretical Considerations in the Estimation of Snowfall Rate Using Visibility* (TP 12893E), Transportation Development Centre, Transport Canada, November 1998.

HOW TO READ AND USE THE TABLE

This visibility table applies to all Type I, II, III, and IV fluids.

Assume that the daytime visibility in snowfall is 1 statute mile and the temperature is -7°C. Based on these conditions, the snowfall intensity is light. This snowfall intensity is used to determine which holdover time guideline value is appropriate for the fluid in use.

TABLE 7 - ICE PELLET ALLOWANCE TIMES FOR USE WITH TYPE IV FLUIDS

ICE PELLET ALLOWANCE TIMES FOR WINTER 2011-2012

	OAT -5°C and above	OAT less than -5°C to -10°C	OAT less than -10°C
Light Ice Pellets	50 minutes	30 minutes	30 minutes[1]
Moderate Ice Pellets	25 minutes[2]	10 minutes	10 minutes[1]
Light Ice Pellets Mixed with Light or Moderate Freezing Drizzle	25 minutes	10 minutes	**Caution: No allowance times currently exist**
Light Ice Pellets Mixed with Light Freezing Rain	25 minutes	10 minutes	
Light Ice Pellets Mixed with Light Rain	25 minutes[3]		
Light Ice Pellets Mixed with Moderate Rain	25 minutes[4]		
Light Ice Pellets Mixed with Light Snow	25 minutes	15 minutes	
Light Ice Pellets Mixed with Moderate Snow	10 minutes		

NOTES

1 No allowance times exist for propylene glycol (PG) fluids, when used on aircraft with rotation speeds less than 115 knots. (For these aircraft, if the fluid type is not known, assume zero allowance time).
2 Allowance time is 15 minutes for propylene glycol (PG) fluids, or when the fluid type is unknown.
3 No allowance times exist in this condition for temperatures below 0°C; consider use of light ice pellets mixed with light freezing rain.
4 No allowance times exist in this condition for temperatures below 0°C.

NOTE: If the precipitation condition stops at, or before, the time limit of the applicable allowance time in Table 7 above and does not restart, the aircraft may take-off up to 90 minutes after the start of the application of the Type IV anti-icing fluid. However, under conditions of light ice pellets mixed with light freezing rain, the OAT must not decrease during the 90 minute period.

8.2.4 RAMP SAFETY

8.2.4.1 A330 AVIONICS BAY HATCH

The flight deck door must remain closed while the internal avionics hatch is open.

If the flight deck door is closed on arrival at the aircraft:

- Use the door code to activate the buzzer. There will be an engineering staff member positioned on the flight deck to guard the hatch and open the flight deck door.
- Entry to the flight deck should be done with caution and only if the crew deems it preferable to do so.
- After entry, the flight deck door is to be kept closed. Cabin crew and non-engineering ground staff are not permitted on the flight deck until the hatch has been closed.

If access to the Avionics Bay is required after the flight crew have entered the flight deck:

- The crew are to exercise caution if it is necessary for them to remain on the flight deck.
- The flight deck door is to be kept closed. Cabin crew and non-engineering ground staff are not permitted on the flight deck until the hatch has been closed.

8.2.4.2 ENGINE GROUND RUNS

If it is necessary to carry out an engine ground run with passengers on board, it is preferable to have this procedure managed by the flight crew. Prior to commencing the engine run, the flight crew must be fully briefed by the Ground Engineer on the test requirement.

If the ground engineer carries out the engine run, the Captain must be in a control seat. The Captain remains fully responsible for the safety of the passengers on board and for ordering any emergency evacuation if required. In the case of the Ground Engineer carrying out the engine run, the Captain must monitor the run from commencement until completion. All other duties such as flight deck preparation should be deferred until the completion of the engine run.

8.2.4.3 HIGH VISIBILITY OVERVESTS

3 High Visibility Overvests are located in the flight deck coat cupboard of each aircraft.

All Dragonair Flight Deck and Cabin Crew with duties on the tarmac area around the aircraft should wear an Overvest. Crews shall annotate the CAR if a vest is missing.

8.2.5 PASSENGER HANDLING

8.2.5.1 CONDITIONS AND REFUSAL OF CARRIAGE

Dragonair has, after exercising reasonable discretion, the right to refuse carriage, cancel the reserved space, or remove enroute to any passenger for a number of reasons. The passenger because of his behaviour or condition is likely to cause safety or security problems inflight. The action is necessary to prevent violation of any laws, regulations or orders of any State or country to be flown to or over visa or passport problems.

For example:

- Passengers known to be suffering from communicable disease
- Passengers, who because of severe physical incapacitation or infirmity, are unable to care for themselves, unless accompanied by a responsible attendant.

For all normal pregnancies, travel is permitted between the first and thirty-sixth weeks. If any doubt exists concerning a passengers physical condition to fly, a Company approved Doctor must be contacted for advice. The Commander has the authority to refuse carriage if a passenger is thought to be under the influence of drugs or alcohol. No Company employee should volunteer an opinion, but should obtain statements from independent witnesses. The Commander has the authority to offload any passenger en-route whose behavior causes a safety hazard or makes him/herself objectionable to other passengers or cabin crew. In certain conditions a passenger may be accepted after signing a Form of Indemnity. Acceptance will be decided by the Company approved Doctor in medical cases, and Airport Services or Security Department for other cases. The copy of the “Form of Indemnity” will be handed to the FA1, who will return the form to the Cabin Crew Office via the flight file at the end of the flight.

8.2.5.2 CARRIAGE OF AILING PASSENGERS

When an ailing passenger is to be carried on a flight the Captain will be provided with a MEDA telex outlining the details of the case and the special equipment being carried. The passenger may be accompanied by a medical escort and possibly require special equipment such as a stretcher, oxygen cylinders etc.

The information given to the Captain is in a coded format. To enable the crew to decode the message, a sample of a telex and the medical information sheet used to compile the telex message is shown below:

SPECIAL PAX LIST SSR-MAAS
KA9O1/
Y/11MAY PEKHKG IQSO
PEKHKG
001 J5R2FYHK2
P2.WANG/HT MS
SSR OTHS KA HK1 AMBULANCE FROM BJS PEOPLES HOSPITAL TO APT ON PAX OWN ARRANGEMENT/P2
SSR OTHS KA HK1 AMBULANCE FROM HKG APT TO QUEEN MARY HOSPITAL ON PAX OWN ARRANGEMENT/P2
SSR MAAS KA HK1 PEKHKG 901 Y 11 MAY MEDA/EXTRA OXY/STRETCHER/P2
SSR MEDA KA HK1 PEKHKG 901 Y 11 MAY TWO BOTTLES OF EXTRA OXY 2 LTRS PER MIN EMERGENCY USE/P2
SSR MEDA KA HK1 PEKHKG 901 Y 11 MAY LUNG CANCER/P2
SSR STCR KA HK1 PEKHKG 901 Y 11 MAY/P2
OSI KA MEDAO1 1WANG/HT MS I FEMALE / 52YRS
051 KA MEDAO2 DR P.Y. LI /BEIJING PEOPLES HOSPITAL / 64101234
051 KA MEDAO3 LUNG CANCER / JUN98/ JUN98
OSI KA MEDAO4 CONDITION STABLE
OSI KA MEDAO5/06/07 NO
OSI KA MEDAO8 NO CANNOT WALK ON HER OWN
OSI KA MEDAO9 YES ATTENDANT 1CHEN/TM MR IS QUALIFIED DOCTOR
OSI KA MEDA1O YES EXTRA OXY 2 LTRS PER MIN EMERGENCY USE
OSI KA MEDA11/12/13/14 NO
OSI KA MEDA15 STRETCHER
OSJ KA MEDA16 NO
OSI KA MEDA ACCEPTANCE APPROVED BY MEDICAL OFFICE ON 7MAY WZ EXTRA OXY EMERGENCY USE
OSI KA PATIENT TVL WZ QUALIFIED DOCTOR 1 CHEN/TM MR
OSI KA STCR BLKSEATON KA900/1 11MAY HKG/PEK/HKG PNR R/H1234/H1235/H1236/H1237/H1238/H1239
051 KA STCR CONFIRMED BY ENG FIXED IN HKG ON KA900/11 MAY FOR PAX USE ON KA9O1/11MAY N DISMANTLED UPON ARRV HKG
COUNT
Y-CLASS 1
END

Form - Medical Information - Part

(Text may be modified by the airline to comply with local law)

PART 2	MEDICAL INFORMATION — PART 2	(for official use only)
To be completed by ATTENDING PHYSICIAN	This form is intended to provide CONFIDENTIAL information to enable the airlines MEDICAL Departments to assess the fitness of the passenger to travel as indicated in PART 1 hereof. If the passenger is acceptable, this information will permit the issuance of the necessary directives designed to provide for the passenger's welfare and comfort. The PHYSICIAN ATTENDING the incapacitated passenger is requested to ANSWER ALL QUESTIONS (Enter a cross in the appropriate yes or no boxes and or give precise concise answers) COMPLETING OF THE FORM IN BLOCK LETTERS OR BY TYPEWRITER WILL BE APPRECIATED	The form must be returned to (Carrier's Designated Office)

Airlines Ref. Code MEDA01	PATIENT'S NAME (Mr Mrs Miss) SEX AGE		
MEDA02	ATTENDING PHYSICIAN Name & Address		
	Telephone Contact	Business	Home
MEDA03	MEDICAL DATA DIAGNOSIS in details (including vital signs)		
	Day/month/year of first symptoms		Date of diagnosis
MEDA04	PROGNOSIS for the trip:		
MEDA05	Contagious AND communicable disease*	No ☐ Yes ☐ Specify	
MEDA06	Would the physical and/or mental condition of the patient be likely to cause distress or discomfort to other passengers?	No ☐ Yes ☐ Specify	
MEDA07	Can patient use normal aircraft seat with seatback placed in the UPRIGHT position when so required?	Yes ☐ No ☐	
MEDA08	Can patient take care of his own needs on board UNASSISTED * (including meals visit to toilet, etc.)?	Yes ☐ No ☐ If not, type of help needed:	
MEDA09	If to be ESCORTED, is the arrangement proposed in PART 1/E hereof satisfactory for you?	Yes ☐ No ☐ If not, type of escort proposed by YOU	
MEDA10	Does patient need OXYGEN ** equipment in flight? (If yes, state rate of flow)	No ☐ Yes ☐ Litres per Minute ☐ Continuous? Yes ☐ No ☐	
MEDA11	Does patient need any MEDICATION * other than self-administered, and/or the use of special apparatus such as respirator, incubator etc **)	(a) on the GROUND while at the airport(s): No ☐ Yes ☐ Specify	
MEDA12		(b) on board of the AIRCRAFT No ☐ Yes ☐ Specify	
MEDA13	Does patient need HOSPITALISATION? (If yes, indicate arrangements made or, if none were made, indicate NO ACTION TAKEN.)	(a) during long layover or nightstop at CONNECTING POINTS en route: No ☐ Yes ☐ Action:	
MEDA14		(b) upon arrival at DESTINATION: No ☐ Yes ☐ Action	
MEDA15	Other remarks or information in the interest of your patient's smooth and comfortable transportation	None ☐ Specify if any**	
MEDA16	Other arrangements made by the attending physician		

NOTE (*) Cabin attendants are NOT authorized to give special assistance to particular passengers, to the detriment of their service to other passengers. Additionally, they are trained only in FIRST AID and are NOT PERMITTED to administer any injection or to give medication.

IMPORTANT FEES, IF ANY, RELEVANT TO THE PROVISION OF THE ABOVE INFORMATION AND FOR CARRIER-PROVIDED SPECIAL EQUIPMENT (**) ARE TO BE PAID BY THE PASSENGER CONCERNED

Date	Place	Attending Physician's Signature

8.2.5.3 PASSENGER BOARDING DURING TECHNICAL DELAYS

If weather, technical or other problems make it undesirable, Commanders retain the authority to delay passenger boarding. However in the interests of minimising delays it is desirable to board passengers if the technical delay is estimated by Maintenance Control or the licenced engineer in charge of the rectification to be less than 30 minutes. If the rectification is likely to take more than 30 minutes, then the passengers should be boarded when it is estimated to be within 30 minutes of completion. The exceptions to this will be if an engine run is required at higher than idle power, or if the Flight Deck crew have been denied access to the cockpit for pre-flight preparation. It is recognised that there can be a negative perception for passengers seeing maintenance staff working on the aircraft, but overall it is less than the damage caused by unnecessary delays.

8.3 FLIGHT PROCEDURES

8.3.1 GENERAL

8.3.1.1 VFR/IFR POLICY

Air Traffic Services must be used for all flights whenever available.

A flight must not be commenced unless an ATS flight plan has been submitted, or adequate information has been deposited in order to permit alerting services to be activated if required.

CHANGE FROM IFR TO VFR

All Dragonair flights operate under an IFR flight plan and are always conducted under IFR compliance. When an aircraft operating under IFR is flown in or encounters VMC, it must not cancel its IFR flight plan.

8.3.1.2 NAVIGATION

NAVIGATION PROCEDURES

Compliance With State Regulations

The aircraft is, at all times, to be flown in accordance with all statutory requirements and rules relevant to the safe conduct of a flight.

In respect of rules governing flight procedures, pilots are reminded that, as licence holders, they are required to be thoroughly familiar with the relevant information contained in the HK AIP, AIP Supplement and AIC, Class I Notams, Air Navigation (Hong Kong) Order, and CAD Information circulars.

It is the duty of all aircrew to acquaint themselves at the airfield of departure with all relevant amendments, corrections and alterations to existing flight rules and current navigational warnings.

Instrument Flight Rules Flight Plan

All commercial flights carried out by Dragonair aircraft are to be conducted under an IFR Flight Plan.

Flight In Uncontrolled Airspace

Flight into and out of uncontrolled airspace and airports is generally prohibited. However, such flights may be conducted in order to complete a charter flight, but only after an appraisal showing that the flight can be safely completed and in accordance with regulatory requirements and company procedures. In any case, such flights may not be carried out without the specific approval of the General Manager Operations.

NAVIGATION DATA BASE

The Navigation Data Base is described in FCOM/DSC-22_20-20-50 Navigation - Navigation Database.

Dragonair's Navigation Data Base is supplied by Honeywell from data supplied by Jeppesen and Dragonair. The A320/321 Navigation Data Base designated KA1 (KA3 for newer A320/321), is a 400K data base, which covers Dragonair's AOC area. The A330 Navigation Data Base, designated KA3 is a 1M world-wide data base with some airfields not applicable to KA's route structure removed.

a. During initialisation, enter the Company Route from the CFP. The routes are defined using the SITA 3 letter locators and a suffix. There may be more than one route and they are listed in numerical order, "1" being the most commonly flown

option. For example, for Hong Kong to Xiamen route number 1 (HKGXMN1), enter HKGXMN 1 into the FMGS.

b. Suffix "8" or "80" may be used for Company Alternate Routes.

c. Entering the Company route brings up all the associated parameters, e.g. CRZ FL, ALTN, etc.

d. Primary Alternate for the selected destination is shown at LSK 2L. All alternate routes are defined in the Navigation Data Base. Some destinations have more than one associated alternate route.

e. The default acceleration height is 1,500 ft. This height also applies in the case of an engine failure, unless because of obstacles a higher height applies. If a higher acceleration height applies, crews should overwrite at LSK 6R.

f. Dragonair's fuel policy forms part of the Navigation Data Base, and fuel figures and related time predictions on the PERF page are predicated on that policy.

g. Previously pilot defined and stored routes, waypoints, navaids and runways are not automatically deleted at the end of the flight, but remain in the Navigation Data Base until deleted or until the Navigation Data Base is updated.

All errors and omissions in the Navigation Data Base must be reported to Operations by entering the details on the CAR for the attention of Line Operations.

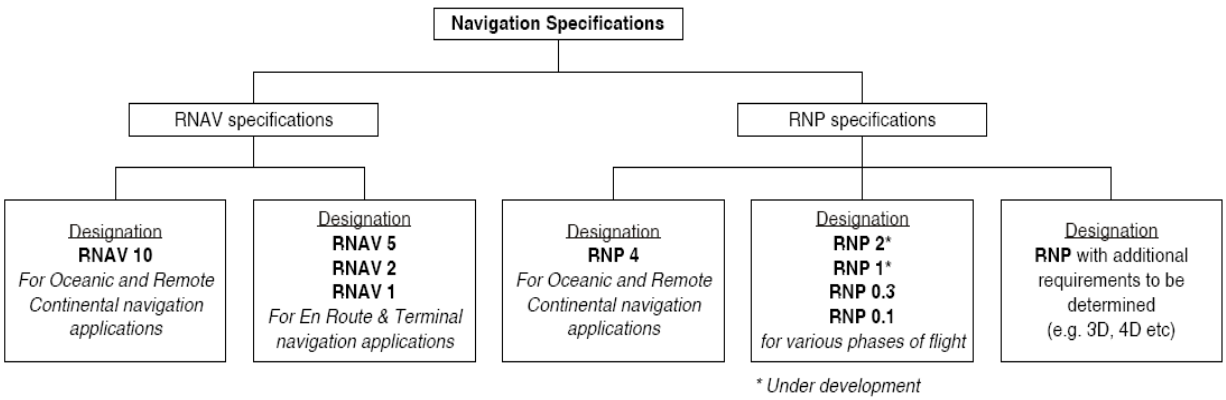
REQUIRED NAVIGATION PERFORMANCE (RNP)

1. Required Navigation Performance is a statement of navigation performance necessary for operation within a defined airspace and or for a specific procedure, such as complex Arrival and Departure procedures. RNP includes a specific performance level, allowing the aircraft to operate autonomously within strict navigational performance criteria whilst monitoring its own navigational performance and alerting the crew to non-compliance. The airspace design establishes the required level of performance (e.g. RNP-10, RNP-5, RNP-4, RNP-1, etc).

2. A RNP specification is designated as RNP-X; a RNAV specification is designated as RNAV-X. For both RNP and RNAV designations, the suffix 'X' corresponds to navigation accuracy in nautical miles (e.g. RNAV-1, RNP-0.3). The RNP type is based on a navigation performance accuracy value that is expected to be achieved at least 95 per cent of the time by the population of aircraft operating within the airspace.

3. RNP is RNAV with on-board navigation monitoring and alerting.

4. The Global Navigation Satellite System (GNSS) is the navigation infrastructure platform that permits utilisation of the benefits to be gained from RNAV capabilities and the RNP concept. GNSS provides a global time based position determination process that includes one or more satellite constellations, aircraft receivers and system integrity monitoring.



5. P-RNAV

All Dragonair aircraft are P-RNAV compliant. The minimum requirements for P-RNAV are at least one FMS, with one GPS or one DME input. The Navigation Database must be current and valid. ATC must be informed immediately in the event of equipment degradation below the minimum requirement. Equipment degradation prior to departure would result in the aircraft being unable to depart under the MEL.

6. RNP-4

RNP-4 is certified when the Future Aircraft Navigation System (FANS) is installed (FANS-A for Airbus aircraft). The system consists of Controller Pilot Datalink (CPDLC) and Automatic Dependant Surveillance-Contract (ADS-C) via datalink. The minimum requirements for RNP-4 are an operational ADS, which requires ACARS, SATCOM and one GPS. ATC must be informed of equipment failure prior to departure or during flight, and may require the aircraft to descend to a lower than optimum level to maintain separation from other traffic on the same route.

7. RNP-5 (B-RNAV)

RNP-5 or B-RNAV is based on existing RNAV capability. All Dragonair aircraft are RNP-5 compliant. The minimum requirements for RNP-5 are at least one Inertial Navigation Unit with appropriate updating capability, either radio or GPS. ATC must be informed immediately in the event of equipment degradation below the minimum requirement. Equipment degradation prior to departure would result in the aircraft being unable to depart under the MEL.

8. RNP-10

Compliance is based on IRS performance. All Dragonair aircraft are RNP-10 compliant. ATC must be informed immediately in the event of equipment failure in flight which results in a downgrade of navigation accuracy (NAV ACCURACY DOWNGRADE message). ATC may require the aircraft to descend to a lower than optimum flight level to maintain separation from other traffic on the same route.

AREA NAVIGATION (RNAV)

RNAV operations within the RNP concept permit flight in any airspace, within prescribed accuracy tolerances, without the need to fly directly over ground based navigation facilities.

The future concept of operation for navigation is Area Navigation (RNAV) and Required Navigation Performance (RNP) supported by a Global Navigation Satellite System (GNSS).

RNAV routes and Terminal Procedures, including SIDs and STARs, demand strict pilot awareness and maintenance of the procedure centerline and an understanding of the various waypoint (Fly-by and Fly-over) and leg types (Course-to-Fix, Direct-to-Fix, etc) used in RNAV procedures.

Except for the navaid providing lateral guidance for the final approach segment of an instrument approach procedure:

a. Use of RNAV equipment is suitable as a substitute means of navigation guidance when a VOR, NDB, Locator Beacon, DME, etc are out of service or the aircraft is not equipped with conventional equipment such as ADF, or the aircraft's ADF is not operational.

b. The aircraft's RNAV capability may be used to navigate to or from a VOR, NDB, Locator Beacon; or Hold over a VOR, NDB, Locator Beacon, DME Fix; or fly a DME Arc; or determine the aircraft's position over a VOR, NDB, Locator Beacon, DME Fix; or its position over a named fix defined by a VOR Course, NDB Bearing, Locator Beacon Bearing.

RNAV-only approaches, i.e. without GPS updating, shall not be conducted.

GPS ONLY AIRPORTS

If a GPS approach is the sole means of approach available at destination, destination alternate, or an en-route alternate, GPS PRIMARY availability must be verified prior to flight. This can be verified via NOTAM and/or Company NOTAM.

Where a takeoff alternate is required, at least one non-GPS based approach procedure must be available at the alternate.

FLIGHT IN SCHEDULE 8 NAVIGATION AREAS

It is prohibited to operate a flight of over 500nm through any part of a Schedule 8 Navigation Area, unless article 18(4) of the AN(HK)O is complied with. Refer FCOM/PRO-SPO-52 'Schedule 8 Navigation Areas'.

8.3.1.3 ALTIMETER SETTING PROCEDURES

ALTIMETRY

It is the responsibility of all crew members to call transition level and transition altitude as appropriate and to check that all altimeters are set accordingly.

a. Where transition levels and transition altitudes have been established, reports of vertical position will be expressed as follows:

   i. At or below transition altitude, in terms of altitude indicated by the altimeter set to QNH. At or above transition level, in terms of flight levels, indicated by the altimeter set to standard pressure.

   ii. Departing aircraft shall use QNH whilst climbing until passing transition altitude thereafter using standard pressure. Approaching an assigned level or altitude, pilots will cross-check altimeters at 1,000ft before reaching. The call to be used will be "ONE TO GO".

b. Aircraft descending for landing will change to QNH:

   i. On leaving or passing transition level.

      However, QNH should be set and vertical position related to QNH after clearance below transition level has been received and descent commenced, provided level flight above the transition level is not anticipated.

   ii. After clearance to an altitude if no transition level is published by the Authority.

c. Aircraft passing through the transition layer report flight levels when climbing and altitudes when descending.

   i. The altitude select and alert system, if applicable, is to be used throughout the flight.

   ii. During the descent, altimeter cross-checks will be carried out by each pilot at 20,000ft and 10,000ft Above Aerodrome Level, and 1,000ft before any ATC assigned altitude. When cross-checking altimeters the ATC assigned altitude will also be checked. A cross-check by the Capt and F/O will be made at each altimeter call. Whenever altimeter settings are altered, both pilots should repeat the numerals they are setting and cross-check the altimeters.

d. Standard airport pressure setting at major airports in Mainland China is QNH.

   Crews should be aware that QFE is still used at some regional airports. When only QFE is available, corrections for airport elevation must be applied to all procedural altitudes.

   The FCU altimeter setting and the barometric subscale on the standby and

metric altimeter (if installed) are to be set to QNH in accordance with the guidelines in this section.

e. For non-precision and CAT 1 approaches the barometric altimeters must be used to determine the MDA or DA.

For CAT 2 and 3 approaches the radio altimeters must be used to determine the DH.

METRIC ALTIMETERS

When operating in the PRC above transition level, the metric altimeter subscale is to be set to Standard. When operating below the transition level/altitude, the metric altimeter is to be set to QNH.

The primary reference for altitude/Flight Levels is the indication on the PFDs.

The metric altimeter subscale is to be changed to the appropriate setting at the same time as changes are made on the Barometer Reference Selector on the EFIS control panel. Apart from checking that the subscale is appropriately set there is no other specific check required of the metric altimeter.

Following a change in the barometric reference (i.e, from QNH to Standard or vice versa) the Altitude/Flight Level indications on PFDs 1 and 2 are to be crosschecked by reference to the 'Feet' display. There is no requirement to check the indication on the metric altimeter.

Outside the PRC the Metric Altimeter subscale will remain set to standard.

PROCEDURE WHEN CLEARANCE IS IN METRES

Metres are used in the PRC as the standard unit of reference for vertical separation. 1013 HPa is used as the barometric reference above the Transition Level, and either QNH or QFE is used as the reference below the Transition Altitude.

A clearance in Metres must be converted to its equivalent value in 'Feet' and the primary method of conversion shall be the Metric Conversion Card. At Airports where clearances are referenced to QFE, the conversion tables given on the Jeppesen SID, STAR or Approach Charts may be used as an alternative means of conversion.

Each pilot is to have the Metric Conversion Card in a position where it is readily available for reference.

The digital metric readout is to be displayed at all times when clearances are given in Metres.

PROCEDURE WHEN ALTIMETER SETTING IS IN INCHES OF MERCURY

The “in Hg” setting on the Baro Ref selector should be used when altimeter settings are given in Inches of Mercury, even when a hectopascal equivalent is given.

Care should be exercised when switching the selector between inHg and hPa (e.g. to obtain an equivalent figure for the standby altimeter) as the previously selected value may jump to a default value.

8.3.1.4 TCAS

POLICY AND PROCEDURES FOR THE USE OF TCAS

TCAS II (Generic term is ACAS II − Airborne Collision Avoidance System) is an independent airborne safety net. Flight Crew need to understand the operational principles and correctly apply the normal operating procedures to maximise the operational effectiveness.

The TCAS traffic display is designed to support the visual detection of other aircraft in close proximity but is not a replacement for a proficient Out-of-the-window visual scan.

The TCAS shall be selected to TA/RA for all phases of flight. Selection of TA mode may be required in certain conditions where aircraft performance is limited by an in-flight failure and this will be detailed in the associated Emergency or Non-Normal Checklist.

Where a conflict exists between the RA commanded manouevre and an ATC instruction, the commanded RA manouevre shall be followed.

Climb and descent rates should be limited to a maximum of 1,000ft / MIN when in close vertical proximity to other traffic and approaching the assigned level to minimise nuisance TCAS warnings. This is not a requirement unless conflicting traffic is a factor.

Operating with an inoperative TCAS is permitted (including RVSM Airspace) provided it is completed in accordance with the applicable MEL. The TCAS must be serviceable ex-HKG except where allowed by the MEL. At Outports the TCAS may be inoperative subject to the Time and Sector constraints detailed in the MEL.

The procedures applied for the provision of Air Traffic services to aircraft equipped with TCAS is identical to those applicable to non-TCAS equipped aircraft. There is no requirement to annotate the Flight Plan or declare to ATC if the TCAS is unserviceable. Provided the aircraft Transponder is reporting altitude, it will be visible to other aircraft operating TCAS II equipment.

8.3.1.5 REDUCED VERTICAL SEPARATION MINIMUM (RVSM)

GENERAL

Reduced Vertical Separation Minimum (RVSM)

Reduced Vertical Separation Minimum (RVSM) airspace is any airspace between FL290 and FL410 (inclusive) where aircraft are separated vertically by 1,000 ft instead of 2,000 ft.

Flight within RVSM airspace requires a higher standard of vertical accuracy than normal. Certain procedures are also required to ensure the integrity of the applicable separation minima

Crews should pay particular attention to the following parameters when operating in RVSM airspace:

a. Accuracy of vertical navigation.

b. Accuracy of vertical speed control.

c. Knowledge of contingency plans.

Requirement within RVSM Airspace

Required equipment, flight preparation, in-flight procedures and contingency procedures are detailed in Vol 5 Air Traffic Control and FCOM.

Air Safety Reporting within RVSM Airspace

If a flight deviates by 300 ft or more from a cleared flight level while in RVSM airspace, an ASR report is to be completed and submitted to the Dragonair Corporate Safety & Quality Department. Line Ops should also be notified via CAR.

Additionally if Wake Turbulence is encountered while in RVSM airspace, an ASR report is to be completed and submitted to the Dragonair Corporate Safety & Quality Department.

RVSM in China Airspace

The airspace between FL291 (8,900m) and FL411 (12,500m) inclusive is defined as China RVSM airspace. Aircraft are separated vertically by 1,000 ft.

ATC will issue the Flight Level clearance in metres. Crew should use the Metric Conversion Card to determine the corresponding flight level in feet.

Contingency Procedures

The rear of the Metric Conversion Card card contains contingency procedures applicable to RVSM airspace.

8.3.1.6 FUEL REQUIREMENTS IN FLIGHT

Computer Flight Plans (CFPs) for all flights, other than ULH flights, are constructed with 5% contingency fuel.

Once in flight an aircraft may continue towards destination provided that the requirements defined below in paragraph i, OR paragraph ii, OR paragraph iii can be met.

i. NORMAL FUEL REQUIRED

Continuous assessment of fuel on board ensures that there is sufficient fuel available to:

a. Proceed from present position to destination.

b. Make an approach to land.

c. Divert to an alternate airport, with 5% Contingency Fuel.

d. Hold for 30 minutes at 1,500ft and carry out an approach and landing.

ii. AVAILABILITY OF A SUITABLE ERA

As the flight progresses, updated assessments of the fuel remaining at destination will continue to be made. At any time it is estimated that fuel on arrival will be close to Minimum Diversion Fuel, the decision regarding continuing to destination or diverting to the suitable ERA must be made at a point where diversion is still feasible.

The decision to divert or continue must be made prior to passing overhead or abeam the last suitable ERA. If continuing to destination Normal Fuel Required must be available at this point, unless the requirements of para iii can be met.

iii. IN-FLIGHT REDUCTION OF NORMAL FUEL REQUIRED

If it becomes obvious en-route that the flight will arrive at destination with less than Minimum Diversion Fuel, it is permissible to continue to destination provided:

a. En-route and Prior To Descent For Destination Airport

i. The airport has two independent runways suitable for landing i.e. not crossing or reciprocal.

ii. The actual and forecast weather for the ETA at the destination airport indicate weather conditions at or above the Non-Precision Alternate Planning minima and the crosswind is within aircraft limits.

iii. There are no known or probable ATC delays.

iv. Fuel remaining is sufficient to continue to destination, plus 5% contingency fuel from overhead or abeam the last suitable en-route airport, plus 30 minutes holding at 1,500ft and carry out an approach and landing.

NOTES:

1. The above policy should be applied with due discretion, the Commander should not plan to land at destination with only 30 minutes fuel remaining. As a guide, planning to land at the destination airport with less than 45 minutes fuel remaining should not normally be considered.

2. Hong Kong NOTAMs often indicate that only one runway will be available during the night period due to routine maintenance (see Port Page for details). If “In-flight Reduction of Normal Fuel” is being considered, the crew must confirm through IOC that the second runway will be made available at short notice.

b. After Commencing Descent

If a delay or unforeseen situation develops which would result in the aircraft landing with less than Minimum Diversion Fuel, the flight may continue to the destination airport provided that the fuel remaining on landing will be at least equal to Reserve Fuel. The Commander must consider all relevant factors with particular reference to the reason for the delay, weather deterioration, and runway availability at the destination and alternate before electing to continue rather than diverting to the alternate.

iv. MINIMUM FUEL FOR LANDING

If there is any possibility of the aircraft landing with only Reserve Fuel remaining this should be calculated from the lowest figure CALCULATED, or TOTALIZER/ECAM FOB indication.

If, at any time, it is evident the aircraft will land with less than the Reserve Fuel remaining an Emergency must be declared.

v. DIVERSION TO AN ALTERNATE

If a diversion becomes necessary crew should be aware that although the Alternate Fuel shown on the CFP includes 5% contingency, the possibility of step climbs, lower than planned flight levels and delays on arrival may make it prudent to commence diversion prior to reaching Minimum Diversion Fuel status.

NOTE: When a diversion is prompted by technical malfunction or damage suffered to the aircraft (e.g. multiple bird strike or hail impact), crew should be aware of possible increased fuel burn when calculating their diversion fuel requirement.

vi. COST INDEX

The Commander/PIC may elect to vary the CFP Cost Index (CI) in-flight when operationally appropriate. A CI higher than the CFP Cost Index should not be used when it results in a flight arriving ahead of schedule, unless this has been specifically requested by IOC. Flight Dispatch will produce CFPs based on the standard fleet CI unless requested by IOC.

On-time arrival is more significant than an on-time departure. The extra fuel used by a

higher CI will normally be less than the cost of passengers' missed connections. The Flight Crew must ensure sufficient fuel is available before selecting a CI higher than the planned CFP Cost Index. Extra fuel should not be loaded for "what if" scenarios.

Due to the significant fuel penalty associated with high speed cruise flight, the use of a CI greater than CI-150 should only be used to guarantee an arrival before a published Airport Curfew, or when Crew duty hours are critical.

8.3.1.7 WAKE TURBULENCE

Dragonair aircraft are categorised as "HEAVY" (A330) and "MEDIUM" (A320) with respect to wake turbulence. A wake turbulence encounter generated by a preceding "HEAVY" aircraft type can significantly affect the handling and controllability of an aircraft during arrival or departure. The effect on a "HEAVY" aircraft of a preceding wake turbulence category aircraft assessed as "LIGHT" or "MEDIUM" would not normally be significant. ATC aircraft spacing guidelines are intended to minimise wake turbulence encounters.

The Airbus A380 is classified as "HEAVY", however increased separation is recommended by ICAO for both departure and arrival.

DEPARTURES

In certain wind conditions, especially a light crosswind of 5kt coupled with a headwind component, the wake vortices from preceding aircraft may remain on the centreline and climb-out path for extended periods.

HKG ATC applies Wake Turbulence separation in accordance with the ICAO requirements for aircraft departing from the same runway position.

If the leading aircraft is classified as Heavy and the following aircraft is classified as Medium, then the minimum separation between airborne times is 120 secs. This gives a brakes-off time for the following aircraft of 120 secs minus the estimated roll time. ATC applies 40 secs average roll time to Medium/Light aircraft ie Take Off clearance is given 80 secs after the preceding aircraft became airborne.

If the leading aircraft is an A380 and the following aircraft is a medium, then the minimum separation between airborne times is increased to 180 secs.

Although ICAO do not publish separation criteria between "HEAVY" aircraft, Hong Kong ATC use an absolute minimum of 90 seconds from the start of the preceding aircraft's takeoff roll before issuing the subsequent aircraft a take-off clearance. Flight Crew may request to delay the take-off should they feel greater separation is required.

ARRIVALS

Wake vortices tend to spread and sink behind an aircraft. They will dissipate more quickly in moderate to strong crosswind conditions. However during approach, a light quartering tailwind with a crosswind component of around 5kt will tend to hold the upwind vortex on the approach path for an extended period.

Hong Kong ATC normally provide separation of 4nm for a "HEAVY" aircraft following another "HEAVY" aircraft and 5nm for a "MEDIUM" aircraft following a "HEAVY" aircraft. When the leading aircraft is an A380, the separation is increased to 6nm and 7nm respectively.

When a potential reduction to, or below, the required wake turbulence separation standard is detected, ATC will issue a caution to the pilot of the following aircraft. The cautionary message will include the preceding aircraft's type, distance ahead and ground speed. Continuation of the approach will be at the Commanders/PIC discretion.

8.3.1.8 CREW MEMBERS AT THEIR STATIONS

FLIGHT CREW

During take-off, initial climb, descent, approach and landing and during in-flight turbulence, there must be two qualified pilots at the controls wearing the full seat harness with their seats secured in the optimum position. When established in the climb and during cruise seat belts only may be worn.

During any critical phase of flight both pilots must be capable and mentally prepared to take over full control of the aircraft. Both pilots must be satisfied that full rudder control is available prior to take-off.

During cruising conditions one pilot may vacate his seat for short periods to meet physiological needs or as required by his flight duties; the remaining pilot shall wear the full seat harness until both pilots are once again seated at the controls. No cockpit seat changes are allowed below 10,000ft AAL. The pilots' seats are not to be occupied by unqualified persons.

8.3.1.9 FLIGHT DECK SECURITY – STERILE FLIGHT DECK PROCEDURE

Flight Operations adhere to the 'Sterile Flight Deck Procedure' concept to minimise non-operational distractions or interruptions during specific phases of flight.

The procedure shall commence from engine start and continue until reaching Cruise Altitude (or approximately 30min after take off), and from the "30min to landing" call until the aircraft is parked. The Flight Crew shall only be disturbed for urgent operational issues and access to the Flight Deck is not permitted unless initiated by the Flight Crew during these phases of flight. The Flight Deck Access Procedures (refer Volume 7) shall apply at all times.

8.3.1.10 ADMISSION TO FLIGHT DECK

No person, other than the flight crewmembers assigned to a flight, must be admitted to, or carried in, the flight deck unless this person is:

- an operating crewmember;
- a representative of the authority responsible for certification, licensing or inspection if this is required for performance of his official duties or;
- is permitted by the Commander.

The final decision regarding the admission to the flight deck of any person rests with the Commander.

He shall request identification of such persons before granting such admission.

Any person authorised by the HKCAD is permitted at any time to board and fly in any aeroplane operated in accordance with an AOC issued by that Authority and to enter and remain on the flight deck, provided that the commander may refuse access to the flight deck if, in his opinion, the safety of the aeroplane would thereby be endangered.

8.3.1.11 USE OF VACANT CREW SEATS

USE OF FLIGHT DECK JUMP SEATS ON PASSENGER AIRCRAFT

The Operations Division has sole discretion over the control and release of a flight deck jump seat. Aircraft Commanders have authority to exercise discretion over allocation of the jump seats under certain conditions.

Persons nominated by the Flight Operations Department management and 'check and training' duties have priority over the use of the jump seats. When check duties are being undertaken the Commander cannot release either jump seat. This restriction also applies to most training duties. However, in the following circumstances the Commander may exercise discretion taking into consideration the experience, needs

and performance of the trainee:

a. Landing recency

b. Line continuation training

Simulator Instructors may also be carried on a training flight for the purposes of route familiarisation.

Notwithstanding the above, in special circumstances, specific one-off approval may be granted by the DOM following a request by the aircraft Commander.

When no passenger seats are available in the aircraft cabin, the following persons may be allocated a jump seat at check-in, provided they meet the age and language criteria specified in this section and their identity is capable of being verified to the satisfaction of the Commander.

a. Current staff of Dragonair and Cathay Pacific Airways.

b. Retired Flight Deck crew members and retired Directors of Dragonair and Cathay Pacific Airways in possession of a Retiree Card.

c. Immediate family members of current Dragonair and Cathay Pacific Airways. For the purpose of this rule, immediate family is restricted to husband/wife, children and father/mother, of any current KA / CX staff. This does not include brother/sister or any other relative or Travel Companions.

d. Officers of the HKCAD on official duty carrying appropriate verifiable ID.

e. Persons specifically authorised by Dragonair Flight Operations Department management to travel on that flight. Commanders will be informed of the relevant circumstances.

If a person carried on the flight deck under the permissible guidelines wishes to leave or re-enter the flight deck during flight, it should be done quietly and discreetly, ensuring the door is locked immediately after departure and re-entry. Alcohol beverages are not to be served to persons occupying the jump seat(s).

Visits to the flight deck by commercial passengers, whether for take-off and landing or during flight are not permitted.

The Commander has the right to deny access to the flight deck to any person he considers inappropriate.

Only able-bodied English speaking persons may occupy the jump seats. Children under twelve years of age may not occupy a flight deck jump seat. The Commander is to ensure that any person occupying a jump seat is made familiar with the position and method of the use of emergency exits, safety belts, oxygen equipment and life jackets. Refer to the cockpit passenger briefing card.

Ultimate discretion to refuse flight deck travel lies with the Commander. He will refuse travel on the flight deck if in his opinion, the safety of the aircraft would be jeopardised. Flight deck passengers should be instructed not to distract the pilots and to avoid conversation during periods of high work load.

VACANT CABIN CREW SEATS

Subject to the approved Cabin Crew complement, certain vacant Cabin Crew seats may be available for use by specially approved staff. The location of vacant Cabin Crew seats for each Dragonair aircraft type is shown in Part A section 14.14.

Only physically fit and appropriately safety qualified staff, or licensed engineers travelling on Duty Travel, are permitted to occupy a vacant Cabin Crew seat for take-off and landing.

“Safety qualified” means a KA/CX ID card with a white background (crew member), or in possession of a current Certificate of Competency on any current KA/CX aircraft type.

"Physically fit" means the person should have normal mobility and shall not be suffering from any illness or medical condition that may cause an emergency. Pregnant passengers may not travel on a Crew seat after the end of the 26th week of pregnancy. The 26th week limit ensures the passenger is physically able to assist with an evacuation.

Staff occupying a Cabin Crew seat shall prominently display their KA/CX ID Card at all times.

Cabin Crew coverage should not be compromised, especially during take-off or landing, by moving Cabin Crew from their designated stations.

In exceptional circumstances (e.g. for compassionate reasons), Operations Division (GMO or his designate) may authorise the use of vacant Cabin Crew seats. When doing so, the Commander, FA1 and Airport Services Manager (Duty Manager) will be informed accordingly. Any person occupying a vacant Cabin Crew seat under this authority shall be deemed qualified to do so.

Airport Ground Staff are to ensure that the Commander and FA1 are advised of the number and locations of safety-qualified staff passengers occupying vacant Cabin Crew seats.

Allocation of vacant Cabin Crew seats will normally be undertaken by the Airport Services Staff (usually at the Staff Standby Counter).

Alcoholic beverages shall not be served to persons occupying vacant Cabin Crew Seats.

8.3.1.12 INCAPACITATION OF CREW MEMBERS

GENERAL

Incapacitation of a crewmember is defined as any condition which affects the health of a crew member during the performance of duties which renders him incapable of performing the assigned duties.

Incapacitation is a real air safety hazard, which occurs more frequently than many of the other emergencies which are the subject of routine training. Incapacitation can occur in many forms varying from obvious sudden death to subtle, partial loss of function. It occurs in all age groups and during all phases of flight and may not be preceded by any warning.

RECOGNITION

The critical operational problem is early recognition of the incapacitation. The keys to early recognition of incapacitation are:

- routine monitoring and cross-checking of flight instruments, particularly during critical phases of flight, such as take off, climb out, descent, approach, landing and go around.
- flight crew members should have a very high index of suspicion of a "subtle incapacitation":
  - if a crew member does not respond appropriately to two verbal communications, or
  - if a crew member does not respond to a verbal communication associated with a significant deviation from a standard flight profile.
- If you don't feel well, say so and let the other pilot fly.

Other symptoms of the beginning of an incapacitation are:

- incoherent speech
- strange behaviour

- irregular breathing
- pale fixed facial expression
- jerky motions that are either delayed or too rapid

ACTION

The recovery from a detected incapacitation of the handling pilot shall follow the sequence below:

- The fit pilot must assume control and return the aircraft to a safe flight path, announce “I have control” (on Airbus Fly-By-Wire aircraft, use the take-over pushbutton) and engage the autopilot

The fit pilot must take whatever steps are possible to ensure that the incapacitated pilot cannot interfere with the handling of the aircraft. This may include involving cabin crew to restrain the incapacitated pilot.

If the cockpit door is locked, the assisting cabin crew will apply the relevant procedure to unlock the door (entering a code on the code pad and depressing the requested button - refer to FCOM)

- The fit pilot must land as soon as practicable after considering all pertinent factors
- Arrange medical assistance after landing giving as many details about the condition of the affected crewmember as possible

In case of incapacitation of the Commander, refer to PART A Chapter 4.3 for succession of command.

Apply the "crew incapacitation" procedure published in FCOM.

If, in the event of incapacitation, the number of cabin crew is reduced below the minimum required, the procedures to be specified in the Operations Manual should result in consideration being given to at least the following:

a. Reduction of passenger numbers;

b. Re-seating of passengers with due regard to exits and other applicable aircraft limitations; and

c. Relocation of cabin crew and any change of procedures.

Refer also to "Emergency Procedures – Pilot Incapacitation & Crew incapacitation".

8.3.1.13 COSMIC OR SOLAR RADIATION DETECTION PROCEDURES

Not applicable on Airbus aircraft as maximum operating altitude is below 49,000ft.

8.3.1.14 MANAGEMENT SUPPORT

DOM SUPPORT

The Duty Operations Manager (DOM) is available at any time for advice on operational and technical matters. All communications between the Commander and the DOM will be coordinated through IOC.

IOC will consult the DOM if necessary to decide the options and preferred course of action from an operational standpoint. Commercial considerations will be taken into account following liaison with relevant departments.

Any proposed course of action will only be adopted if the Commander is entirely satisfied that Operational, Flight Safety and Flight Time Limitation considerations are met.

DUTY ENGINEERING MANAGER

Duty Engineering Manager can be contacted through IOC.

DISRUPTIONS

During periods of major disruption, such as typhoons, a representative from Line Operations will be positioned in IOC.

The principle function of Line Operations in these circumstances is to support IOC by providing specialist advice to aircraft Commanders. Line Operations will also act as liaison between IOC and other agencies.

Line Operations and IOC will collate all information on available alternates and ensure that Commanders are provided with updated information.

8.3.1.15 MICROBURST ALERT

Dragonair aircraft receiving a Microburst alert are to delay take off or "go around" as appropriate.

8.3.1.16 CONTAMINATED RUNWAYS

Operations on runways with an ICAO Friction Coefficient at or less than 0.25 MU (poor braking) are not permitted, unless an emergency condition dictates an immediate landing is required.

8.3.1.17 MAXIMUM CROSSWIND LIMITS

The maximum demonstrated crosswind for takoff and landing published in FCOM/LIM-12 Airport Operations are to be considered as limitations and are applicable on Dry runways only.

The maximum crosswind limits on Damp, Wet or Contaminated runways will be in accordance with the tables published in FCOM/PRO-SUP-91-50 Crosswind or QRH.

8.3.2 PRE DEPARTURE

8.3.2.1 LOADSHEET

PROCEDURES (MANUAL LOAD AND TRIM SHEETS)

When necessary, the Load Sheet will be prepared by the PF, and the Trim Sheet by the PM.

Refer to FCOM/PRO-NOR-SOP-06 FMGS Data Insertion, and FCOM/PRO-NOR-SOP-07 Before Start Clearance for data entry procedures.

CERTIFICATION

The Commander's printed name and signature must appear on all load/trim sheets. An incorrect name may be hand amended.

By signing, the Commander certifies that he has received and examined the load/trim sheet and it has been filled in correctly.

The printed name and signature of the person responsible for the loading of the aircraft must appear on all manual and computer load/trim sheets. However for ACARS loadsheets only the loadsheeter's printed name is required.

The Loadsheeter or Flight Officer certifies that the load may be safely carried and that the aircraft has been loaded in accordance with the load/trim sheet.

If the Commander is the person responsible for loading then only one certification is required.

Additionally all load/trim sheets must be dated.

See also Part A 8.1.7.4.xiii.

8.3.2.2 PRE-DEPARTURE CLEARANCE VIA ACARS (PDC)

Unless specified otherwise, ATC should be contacted on the appropriate frequency five minutes prior to Eng Start with a request for ATC Clearance.

If a pre-departure clearance (PDC) is obtained by ACARS, the PF should read it aloud to confirm with PM. PM will read back the call sign, SID and SSR code on the appropriate Clearance Delivery frequency. There is no requirement to transcribe the clearance onto the CFP, provided the printout is placed in the Flight Documents Envelope.

If receipt of the PDC is unsuccessful (message not received, incomplete, or corrupted), inform ATC. ATC clearance will then be passed verbally, and should be recorded on the CFP.

Both pilots should confirm the FMGS entered FLT PLN data, FCU settings and ATC transponder code comply with the received ATC clearance.

8.3.3 TAKE-OFF

8.3.3.1 TAKE-OFF MINIMA

TAKE-OFF MINIMA

a. The Commander may not commence a take-off when the RVR, or cloud ceiling where required, is below the minima specified for take-off. If multiple RVRs are reported, all reported RVRs must be at or above the minima. When RVR is not reported, the Commander may assess the RVR by noting the number of runway lights visible from the aircraft, providing the spacing of these lights is known, (ICAO standard spacing for runway edge lighting is 60m, the lighting standard for an airport may be annotated on the Jeppesen chart page 10-9). Pilot assessment may only be used for the purpose of RVR evaluation for take-off. The assessed value shall, in all cases, be above the minimum required as stated below.

b. If lower state or Dragonair LVO take-off minima have been approved, these figures will be shown in parentheses. If take-off is predicated on these lower minima, all RVR readings (touchdown, mid point and stop end) must be available and at or above this minima.

If take-off minima are not published on the Jeppesen airport chart, state minima should be obtained from the appropriate authority. If they cannot be obtained, the following minima apply:

a. If High Intensity Runway Edge Lights (HIRL) and Runway Centreline Lights (CL) and Runway Centreline Markings (RCLM) are available;

Zero ceiling, 200 metres RVR.

b. If HIRL or CL or RCLM are available or where the runway is marked in such a manner that the pilot at all times has visual reference to the line of forward motion during the take-off run;

Zero ceiling, 400 metres RVR.

c. When paragraph a or b is not satisfied;

Zero ceiling, 800 metres RVR.

TAKE-OFF ALTERNATE AIRPORT

When, take-off weather conditions at the departure airport are below those required for landing, or other operational conditions exist that would preclude a return to the aerodrome of departure, take-off is prohibited unless an alternate airport is available within:

a. 500nm for four engine aircraft.

b. 340nm for twin engine aircraft.

When departing in accordance with the above, the following must be observed:

a. Pre-Dispatch aircraft serviceability must be considered when calculating the departure airport landing minima.

b. The take-off alternate shall be filed on the ATS flight plan.

c. Weather conditions at the take-off alternate must be at, or above, the CAT 1 landing minima (or the minima for the approach in use if no ILS available).

d. Operation to the take-off alternate shall be predicated on one-engine inoperative operation.

e. Consideration shall be given to enroute terrain clearance and weather.

8.3.3.2 TURNING AT LOW ALTITUDE

Unless stated on the Port Page, the minimum altitude for initating a turn after take-off is 400ft AAL

8.3.3.3 CLIMB GRADIENTS

All gradient requirements depicted on Jeppesen SID and Approach charts are for All Engines Operating. Performance Section will review the climb gradient requirements for all ports prior to the commencement of operations and if any Company aircraft is unable to achieve the required terrain clearance with an engine inoperative, an aircraft type-specific Engine Inoperative procedure will be detailed on the relevant port page.

Company aircraft with All Engines Operating achieve a gradient well in excess of the gradient required for most SID and missed approach procedures. The figures below are minimum achievable gradients with All Engines Operating during initial climb, prior to the acceleration for flap retraction, and are applicable up to ISA +15°C.

INITIAL CLIMB GRADIENT

	A320/A321	A330
Take-off MTOW	11.8%	15.4%
Missed Approach MLW	20.2%	21.1%

8.3.4 CRUISE

8.3.4.1 RE-CLEARANCE OPERATIONS IN-FLIGHT

On rare occasions, inflight planning to a revised destination may be required for commercial reasons. Should it be necessary to replan inflight, the following criteria must be met until the planning exercise is complete and the revised destination has been communicated to ATC.

1. The destination airport weather meets the criteria specified in flight planning minima to be used for a Destination Airport.
2. An alternate airport must be available where the weather at that airport meets the criteria specified in flight planning minima to be used for an Alternate Airport.
3. Fuel is sufficient to continue to destination, plus 5% contingency fuel from a point overhead or abeam the last suitable en-route airport, plus Minimum Diversion Fuel.

8.3.4.2 HANDOVER DUTIES IN-FLIGHT

A handover briefing by the off-going pilot in charge (PIC) to the oncoming PIC will include:

a. Present aircraft position, altitude and status.
b. Flight progress in relation to planned time and fuel schedule.
c. Significant route, destination and alternate weather.
d. Controlling ACC and frequencies in use.
e. Specific instructions by controlling ACC at variance with planned CFP.
f. Any relevant aircraft unserviceability.
g. Fuel management status.
h. Relevant traffic.

When handing over control of the aircraft, the following statements will be made.

Pilot handing over control - “You have control”.
Pilot taking over control - “I have control”.

8.3.5 HOLDING

8.3.5.1 HOLDING SPEEDS

The table below lists the maximum holding speeds which ensure that the aircraft remains within the protected area of the holding pattern. Requests to hold at a speed greater than published in the table below should not be considered if the aircraft is below MSA, as this may result in the aircraft flying outside the obstacle protected area. These holding speeds may be superseded by any locally imposed holding speeds.

	PANS-OPS 3/4	PANS-OPS	TERPS
34,000ft	M.83 (M.83)	240kts (280kts/M.80)	265kts
20,000ft	265kts (280kts/M.80)		
14,000ft	240kts (280kts/M.80)		
6,000ft	230kts (280kts)	220kts (280kts/M.80)	230kts
Sea Level		210kts (280kts/M.80)	200kts

Bangladesh China Hong Kong India Korea (RKSI, RKPC, RKSS, RKJB, RKNY, RKJY, RKPU) Laos Macau Sri Lanka Thailand Vietnam	Brunei Cambodia Japan (when holding over a navaid) Malaysia Myanmar Philippines Singapore	Japan (except when holding over a navaid) (280/M.8) Korea (other) Taiwan (280/M.8)

Speeds in brackets may be used for flight in turbulent conditions, but may not afford obstacle protection below MSA.

HOLD TIMING, OUTBOUND LEG:

At or below 14,000ft AMSL - 1 minute

Above 14,000ft AMSL - 1½ minutes

8.3.6 APPROACH

8.3.6.1 INSTRUMENT APPROACH PROCEDURES

a. The following instrument procedures are approved:

i. ILS or ILS/DME

(Additional crew training is required if utilising LVO minima.)

ii. LOC or LOC/DME

iii. VOR or VOR/DME

iv. NDB or NDB/DME

v. RNAV(GNSS), RNAV(GPS), GPS
(additional crew training is required).

vi. PAR (additional crew training is required).

vii. SRA (additional crew training is required).

b. Before commencing an instrument approach the following conditions must be fulfilled:

i. A Jeppesen Approach Chart or an approved equivalent must be available to the pilot. This does not apply to radar approaches.

ii. ATC must confirm the runway and aid to be used are available.

iii. The crew must be briefed in accordance with company procedures.

c. NOTAMs available in the briefing unit prior to departure must be checked for the availability of specific aids.

d. It must not be assumed that an aid or runway is available for use because specific AOM have been listed by Dragonair.

e. If a let down aid or procedure is offered for which AOM, OCL, OCA(H), or DA(H) are not given, then that aid or procedure is not authorised for use, except in an emergency.

f. VHF DF procedures are not authorised for use.

8.3.6.2 COMMENCEMENT AND CONTINUATION OF AN APPROACH

APPROACH BAN

The Commander shall not commence an approach (i.e.: descent below 1,000ft AAL) if the reported RVR is below the published minima.

When RVR is not available, reported visibility shall be used instead. In such circumstances, reported visibility shall be controlling in the same manner as RVR. Factoring of reported visibility to obtain an equivalent RVR is not permitted for an approach.

If the aircraft is already below 1,000ft AAL when the reported RVR reduces below the published minima for the approach, the Commander may continue the approach to the published minima. If at the published minima the required visual reference is established (refer paragraph below 'MINIMUM VISUAL REFERENCE') the Commander may continue to land.

When a reduction of RVR to below the published minima occurs prior to 1,000ft AAL the Commander may continue to 1,000ft AAL. A missed approach shall be initiated by 1,000ft AAL unless the RVR has once again increased to the required minima.

Factoring of reported visibility is not permitted for an approach.

In the context of CAT 1 approaches, the Midpoint RVR is generally not reported. When

the Midpoint RVR is reported by ATC the following minimum Midpoint RVR values are required to ensure adequate visual reference:

A320 / A321 / A330 200 metres (150 metres for autoland)

The RVR quoted for the Roll-out (Stop End) of the runway is of an advisory nature only, except for USA operations where Roll-out (Stop End) RVR is controlling. However, the Roll-out (Stop End) RVR shall be taken into consideration by the Commander when planning the roll-out portion of the landing.

MINIMUM VISUAL REFERENCE

The Commander shall not continue an approach by flying below the relevant Decision Altitude (DA) or Minimum Descent Altitude (MDA) if, from that altitude, the approach cannot be completed entirely by visual reference. Minimum visual reference for approaches other than LVO is defined as follows:

a. Precision straight-in approaches (approach lights available):

Sufficient lights of the approach and/or runway lighting system and one row of crossbar lights (or barrettes) visible to ensure that the desired flight path can be maintained using visual reference only.

b. Non-precision straight-in approaches (approach lights available):

At least seven consecutive lights, which may be approach lights, runway lights, or a combination of both.

c. Precision and non-precision straight-in approaches (approach lights not available):

Runway threshold and touchdown zone must be visible.

d. Circle-to-land approaches and approaches which require visual manoeuvring:

Continuous sight of ground features to ensure that aircraft position is maintained within the visual manoeuvring (circling) area and that the aircraft can be positioned on the approach for the runway in use.

MINIMA TO BE USED

Refer to Flight Planning - Post Dispatch (Part A 8.1.4.3)

RNAV APPROACHES AND DEPARTURES

An RNAV procedure must be selected from a valid database and must not be modified in any way.

The primary navigation capability is derived from the FMS updated by GPS (GNSS). Whilst there is, technically, no requirement to tune navigation aids for most RNAV procedures, raw data may be used, if available, to verify correct tracking.

8.3.7 CIRCLING APPROACH

8.3.7.1 FLIGHT PROCEDURES

Circling approaches must be specifically cleared by ATC.

A circling approach is a visual flight manoeuvre. Each circling situation is different because of the variables such as runway layout, final approach track, wind velocity and meteorological conditions.

After initial visual contact, the basic assumption is that the runway environment (runway threshold, approach lighting, or other markings identifiable with the runway) should be kept in sight. The aircraft must be maintained within the defined circling area at all times.

Upon reaching the circling altitude, a level segment may be flown on the instrument approach track towards the Missed Approach Point.

During circling approaches, descent below the circling altitude may only occur when the PF

a. maintains the aircraft within the circling area

b. maintains a visibility along the intended flight path not less than the minimum specified for circling

c. maintains visual contact with the runway environment

d. establishes the aircraft in the traffic pattern to a position from which a continuous descent to the landing threshold using normal rates of descent can be completed whilst maintaining obstacle clearance along the flight path.

In all cases, the approach shall be discontinued if the specified visual reference is lost.

8.3.7.2 MISSED APPROACH PROCEDURE WHILE CIRCLING

If visual reference is lost while circling to land from an instrument approach, the missed approach specified for that particular approach must be followed. It is expected that the pilot will make an initial climbing turn toward the landing runway until overhead the airport when the pilot will establish the aircraft climbing on the missed approach track, unless otherwise defined on the Port Page.

8.3.8 VISUAL APPROACH

8.3.8.1 VISUAL APPROACHES

Visual approaches are to be specifically cleared by ATC.

A Visual Approach at night shall only be conducted at an airport to which the Commander has previously operated and is entirely familiar with the terrain affecting both the descent path and the area surrounding the airport.

The PF may commence a visual approach provided the following conditions can be maintained throughout the approach:

a. Visual contact with the landing runway environment (runway threshold, approach lighting, or other markings identifiable with the runway)

b. A visibility along the intended flight path not less than 5km.

NOTE: When a thin layer of ground fog or mist is present at an airport in otherwise good visibility conditions, the minimum RVR for a visual approach must be 800 metres, or the visibility required for a non precision approach to the runway of intended use, whichever is greater, regardless of the approach lighting or the time of day.

In all cases the approach shall be discontinued if the specified visual reference is lost. In the event of a missed approach, advise ATC as soon as practicable to ensure the appropriate procedure is followed.

TRAFFIC SEPARATION

If preceding traffic is not sighted, ATC may still clear an aircraft for a visual approach. In this case ATC retain responsibility for traffic and wake vortex separation. If preceding traffic is sighted, and a call to ATC made to that effect, the crew are then responsible for traffic and wake vortex separation.

8.3.9 MISSED APPROACH

8.3.9.1 MISSED APPROACH

A Missed Approach must be initiated if:

a. The aircraft is not stabilised as required.

b. Adequate visual reference has not been established by DA/DH (MDA/MDH).

c. Adequate visual reference is lost after passing the DA/DH (MDA/MDH).

d. At DA/DH (MDA/MDH) the aircraft is not placed such that a landing can safely be made within the touchdown area.

A missed approach shall be executed no later than the Missed Approach Point (MAP).

Level flight from the MDA to the Missed Approach Point is not permitted, except as noted in Part A 8.3.7.1.

A Missed Approach from a non-precision approach flown using the Continuous Descent Final Approach (CDFA) technique must be commenced before MDA/MDH by a figure not less than the Aircraft Allowance, as follows:

A320/A321	35 FT
A330	50 FT

Note: If the minima are published as a DA/DH, the procedure has been designed taking into account the use of the CDFA technique. In this case, the Aircraft Allowance is not required.

Aircraft Allowance is not applicable to circling altitudes.

8.3.10 LANDING

8.3.10.1 AUTOLAND

a. Autoland approval for a port is listed on the appropriate port page.

At ports approved for autoland operations, an autoland is strongly recommended when the visibility is less than 1,500m or the cloudbase is below 300ft.

An autoland may only be completed by the Captain, except in cases of pilot incapacitation or other emergency.

Autoland approval in no way suggests that the ILS is suitable for LVO operations. Autoland approval merely records that satisfactory autolands have been demonstrated by three or more Dragonair aircraft of the appropriate type using that ILS facility.

When airport Low Visibility Procedures are NOT in force, approaches planned to culminate in an autoland shall be carefully monitored by the crew as the protected areas of the ILS antennae may be infringed by aircraft or vehicles. The Commander must be prepared to revert to manual flight at any time during the approach.

b. Glide Path Angle

The minimum ILS Glide Path angle is 2.5°.

The maximum ILS Glide Path angle is 3.15°.

c. Threshold Crossing Height (TCH).

The minimum Threshold Crossing Height is 40ft.

The maximum Threshold Crossing Height is 60ft.

NOTE: Where Autoland approval is given on the Port Page, both Glide Path angle and TCH have been assessed to ensure compliance with the above limitations.

8.3.11 DIVERSION

8.3.11.1 DIVERSION TO AN ALTERNATE

a. A landing at any airport other than the scheduled destination is considered a diversion to an alternate.

b. Company selected destination alternate airports are shown on the CFP. Normally, the closest suitable airport will be the filed destination alternate when it meets the weather criteria for filing as a destination alternate.

c. When the closest destination alternate is not a commercially preferred alternate, this will be highlighted on the CFP. If a Commander considers a diversion is likely, he/she should consider changing the nominated destination alternate to the nearest suitable and commercially preferred alternate using the priority list on the CFP, or in consultation with IOC.

d. Whenever possible, co-ordinate selection of an alternate through IOC prior to diverting. An online port, either CX or Dragonair, is almost always preferable to an offline port with limited support.

e. When a diversion becomes necessary due to weather factors, Commanders shall consider whether the intent is to refuel and continue or return to destination within permitted Flight Time Limitations (FTLs), or to await the arrival of a relief crew. If the latter option is likely and more than one suitable alternate option exists, on passenger flights passenger handling aspects shall be the prime consideration.

8.3.12 POST FLIGHT

8.3.12.1 DURING TRANSIT OR AIRCRAFT CHANGE

At least one Cockpit Crew member must remain onboard, whenever passengers are on the aircraft.

8.3.13 COMMUNICATIONS

8.3.13.1 RADIO COMMUNICATIONS WITH ATC

Both pilots will normally maintain a listening watch on the appropriate ATC, VHF or HF frequency. If SELCAL has been checked on the frequency in use it is sufficient to maintain a SELCAL watch. All flights shall continuously monitor the VHF Emergency frequency 121.50 MHz, except for those periods when simultaneous monitoring may be limited due to flight deck duties.

Pilot must maintain good R/T discipline. Whenever there is any doubt regarding an ATC clearance clarification must be sought, especially if terrain clearance is an issue. Such phrases as “confirm cleared FL310” shall be avoided; ATC shall be requested to “say again cleared altitude” or “confirm radar heading”.

Speakers or headsets must be used in pairs, unless one pilot is off watch for the purpose of obtaining an ATIS/contacting the next ATC frequency etc. A positive check is to be made that the speaker(s) is reset to an audible level when a pilot has been off watch.

Headsets must be used by the operating crew during periods of high cockpit workload and at all times below 15,000ft or, where higher, the transition level. A handheld microphone may not be used by the operating crew below 15,000ft or, where higher, the transition level.

GENERAL RULES

The following basic techniques will assist in ensuring that transmitted speech is clearly and satisfactorily received:

- **Listen out** on the frequency ***before transmitting*** to ensure that you will not interrupt another station
- Use a normal conversation tone, speak clearly and distinctly maintaining an even rate of speech at a constant volume.
- A slight pause before and after numbers will assist in making them easier to understand.
- **Avoid hesitation** sounds such as ‘er’
- Press the transmit switch fully before speaking and do not release it until you have finished speaking.
- Do not press the transmit switch until ready to speak.
- ***Think before speaking*** and know what you want to say

COMPANY CALLSIGN

Standard company callsign for all voice communications is “Dragon”.

TRANSMISSION OF NUMBERS

Each digit will be spoken separately when transmitting the following:

- Aircraft Callsigns
- Altimeter settings
- Flight Levels
- Headings
- Wind Speeds/Direction
- Radio Frequencies and Transponder Codes

Number	Transmitted as
KA 810	Dragon Ait Wun Zero
FL 150	Flight Level Wun Fife Zero
230 Degrees	Too Tree Zero Degrees
19 Knots	Wun Niner knots
127.1	Wun Too Seven Dayseemal Wun

All numbers used in the transmission of altitude, height, cloud height and RVR which contain whole hundreds and whole thousands shall be transmitted by pronouncing each digit in the number of hundreds or thousands followed by the word Hundred or Thousand. Combinations of thousands and whole hundreds shall be transmitted by pronouncing each digit in the number of thousands followed by the word Thousand and the number of hundreds followed by the word Hundred. Examples as follows:

Number	Transmitted as
10	Wun Zero
100	Wun Hundred
2500	Too Thousand Fife Hundred
11000	Wun Wun Thousand
10200	Wun Zero Thousand Too Hundred

TRANSMISSION OF TIME

Transmissions of time ***normally only require the minutes of the hour*** although the hour should be included if there is a chance of confusion. UTC is used at all times unless specified.

TIME	TRANSMITTED AS
0823	Too Tree 0r Zero Ait Too Tree
1300	Wun Tree Zero Zero

STANDARD WORDS AND PHRASES

The following words and phrases shall be used in RT communications and shall have the meanings given in the table:

WORD/PHRASE	MEANING
Acknowledge	Let me know you have received and understood this message
Affirm	Yes
Approved	Permission for proposed action granted
Break	Indicates separation between messages
Cancel	Annul the previously transmitted clearance
Changing To	I intend to call …(unit) on…(frequency)
Check	Examine a system or procedure (No answer is normally expected)
Cleared	Authorised to proceed under the conditions specified
Climb	Climb and maintain
Confirm	Have I correctly received the following or Did you correctly receive this message
Contact	Establish radio contact with …(your details have been passed)
Correct	That is correct
Correction	An error has been made in this transmission. The correct version is
Descend	Descend and maintain
Disregard	consider the transmission as not sent
Freecall	Call….(unit) (your details have not been passed)
How do you read	What is the readability of my transmission
I say again	I repeat for clarity or emphasis
Monitor	Listen out on …(frequency)
Negative.	No or Permission not granted or that is not correct
Over*	My transmission is ended and I expect a response from you. (Note: Not normally used in UHF/VHF communication)
Pass your message	Proceed with your message
Read Back	Repeat all, or the specified part, of this message back to me exactly as received
Report	Pass requested information
Request	I should like to know or I wish to obtain
Roger	I have received all your last transmission. Note: Under no circumstances is this to be used in reply to a question requiring a direct answer in the affirmative or negative.
Say again	Repeat all or the following part of your last transmission
Speak slower	Reduce your rate of speech
Standby	Wait and I will call you. Note: no onward clearance to be assumed
Verify	Check and confirm
Wilco	I understand your message and will comply
Words Twice	As a request: Communication is difficult. Please send every word twice. As information Since communications is difficult every word in this message will be sent twice

CONTINUATION OF COMMUNICATION

When communication has been established the ***placement of callsigns*** should be as follows:

a. Ground to Air:

- Aircraft Callsign then message or reply

b. Air to Ground:

- Initiation of new information/request etc - Aircraft callsign then message;
- Reply - Repeat of pertinent information/read back/acknowledgement then aircraft callsign

NOTE: Correct use of this procedure makes it easier to identify when a set of transmissions is complete.

GROUND STATION	AIRCRAFT
Dragon 810 descend FL 80	Descending FL80 Dragon 810
Dragon 810, Roger	Dragon 810 maintaining FL80

TRANSFER OF COMMUNICATIONS

An aircraft will normally be advised by the appropriate ground station to change from one radio frequency to another and to the next agency.

On first contact with the next ATC unit the cleared altitude or flight level must be reported, unless specifically requested not to do so.

GROUND STATION	AIRCRAFT
Dragon 810 contact Xiamen Control 125.7	125.7 Dragon 810
Dragon 810 radar contact	Xiamen Control, Dragon 810 maintaining FL7500 Dragon 810

ISSUE OF CLEARANCE AND READ BACK REQUIREMENTS

Provisions governing clearances are contained in the PANS-RAC (ICAO Doc 4444).

Controllers should pass a clearance slowly and clearly since the pilot needs to write it down - wasteful repetition is thus avoided. Whenever possible a route clearance should be passed to an aircraft before start-up and the aircraft's full callsign will always be used. Generally controllers will avoid passing a clearance to a pilot engaged in complicated taxying manoeuvres and on no occasion when the pilot is engaged in line-up or take-off manoeuvres.

An ATC route clearance is not an instruction to take-off or enter an active runway. The word **'Take-off'** is used only when an aircraft is cleared for take-off. At all other times the word **'Departure'** is used.

ATC route clearances will always be read back unless otherwise authorised by the appropriate authority in which case they will be acknowledged in a positive manner. Read backs will always include the aircraft call sign

GROUND STATION	AIRCRAFT
Dragon 810 cleared to Nanjing via A1, A470 Dotmi 1A, 7000ft Request Level Change en-route, squawk 5513	
	Cleared to Nanjing via A1 A470, DOTMI 1A, 7,000ft request level change en-route squawk 5513 Dragon 810
Dragon 810 Correct	

The following is a list of the ***messages to be read back in full*** by the pilot and if the controller does not receive a read back the pilot will be asked to do so:

- Level Instructions
- Heading Instructions
- Speed Instructions
- Airways or Route Clearances
- Runway in Use
- Clearance to Enter, Land On, Take-Off On, Backtrack, Cross, or Hold Short of an Active Runway
- SSR Operating Instructions
- Altimeter Settings
- VDF Information
- Frequency Changes
- Type of Radar Service

GENERAL PHRASEOLOGY

Some commonly used abbreviations may be spoken using their constituent letters rather than the phonetic alphabet e.g. ILS, QNH, RVR

The following words may be omitted provided that no confusion or ambiguity will result

- 'Surface' and 'knots' in relation to surface wind direction and speed
- 'Degrees' in relation to surface wind direction and headings
- 'Visibility', 'cloud' and 'height' in met reports
- 'Hectopascals' when giving pressure settings of 1000hpa and above

The excessive use of courtesies should be avoided.

The following conventions apply to **Level Instructions**:

- The word 'To' may be omitted from messages relating to Flight Levels e.g. " Dragon 810 climb Flight Level Two Zero Zero"
- All messages relating to an aircraft's climb or descent to an ALTITUDE or HEIGHT employ the word '**TO**' followed immediately by the word ALTITUDE or HEIGHT.

The initial message will also include the appropriate QNH or QFE. (**NOTE:** Beware of using 'TO' without either Flight Level or Altitude / Height before the new figure)

- The phrase 're-cleared' should not be used.

GROUND STATION	AIRCRAFT
Dragon 810 report your level	Dragon 810 maintaining FL 210
Dragon 810 descend FL 160	Descending FL160 Dragon 810
Dragon 810 descend to altitude 8,000ft QNH 1008	Descending to altitude 8,000ft QNH 1008, Dragon 810 *or, may be abbreviated to:* Descending 8,000 QNH 1008 Dragon 810

Pilots are expected to ***comply with ATC instructions as soon as they are issued*** (Note: You must tell ATC if you are unable to comply immediately). However when a climb/descent is left to the discretion of the pilot the words 'When Ready' will be used (Note that "At Pilot's Discretion" is often used although this is technically incorrect) In these circumstances the pilot ***will report leaving his present level***.

GROUND STATION	AIRCRAFT
Dragon 810, when ready, climb FL 280	When ready, climb FL 280 Dragon 810
Dragon 810	Dragon 810 leaving FL 200 climbing FL280

POSITION REPORTING

Position Reports shall contain the following elements

- Aircraft Identification
- Position
- Time
- Level
- Next position and ETA
- Ensuing Significant Point

NOTE: The 'Ensuing Significant Point' is often deleted

for example:

GROUND STATION	AIRCRAFT
Dragon 810	Dragon 810 DOTMI 31 FL 290 SWA 40. (IKATA Next)

Where adequate flight progress data is available aircraft may be exempted from making position reports:

GROUND STATION	AIRCRAFT
Dragon 810 next report at TOL	Wilco Dragon 810
Dragon 810 omit position reports	Wilco Dragon 810

STATES OF EMERGENCY

The two states of Emergency are classified as follows:

- Distress

  A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance.

- Urgency

  A condition concerning the safety of an aircraft or of some person on board or within sight but which does not require immediate assistance.

The emergency message should contain the following information (time and circumstances permitting) and , whenever possible should be passed in the order given.

- **MAYDAY/MAYDAY/MAYDAY** or **PAN PAN, PAN PAN, PAN PAN**
- Name of station addressed (when appropriate and time and circumstances permit)
- Callsign
- Type of Aircraft
- Nature of the Emergency
- Intention of person in Command
- Present or last known position, Flt Level/altitude and heading
- Any other useful information e.g. endurance remaining, number of people on board etc

NON-RECOGNITION OF "PAN" CALLS

Some countries may not recognise the term "Pan Pan" as an urgency message. In situations where a "Mayday" call is considered inappropriate and a "Pan" call is not achieving the desired response from ATC then the phrase "We are declaring an emergency" should be used.

COMMON ERRORS IN R/T

The major error in our operation is the reading back of unnecessary elements of the message passed by ATC and the use of jargon. Remember that the only information required to be read back is given earlier. For example:

ATC MESSAGE	INCORRECT RESPONSE	CORRECT RESPONSE
Dragon 810 closing the localiser from the right. Report established	Closing the localiser from the right and will call established Dragon 810	Wilco Dragon 810
Dragon 810 turn right heading 240	Dragon 810 Turn right onto heading 240	Right, heading 240 Dragon 810
Dragon 810 climb FL 280 report reaching	Re-clear FL280 and will call reaching Dragon 810	Climbing FL 280 Wilco Dragon 810

The addition of extra words amongst standard phraseology: for example position or level reports that go something like this: (The **bold** items are the extras)

- "Dragon 810 **we are now passing** DOTMI **at time er er** 0831 **maintaining** FL290 **and we estimate position** SWA **at time 08**40")
- "Dragon 810 **is now just** maintaining FL190"

Extraneous phrases such as: "Hong Kong Tower Dragon 810 **is with you**"

Not using Standard Phraseology when it would suffice e.g. "**Will call at**" or "**will report at**" instead of "Wilco"

Replying without your call sign e.g. "Dragon 810 Radar service terminated. Contact Guangzhou on 128.35 at DOTMI" ……"G'Day"

Incorrect Standard Phraseology. e.g. "Dragon 810 ready for taxi" instead of "Dragon 810 request taxi"

GENERAL REMINDERS

- The use of the word "CLEAR" is restricted to: ATC clearances, Departure and Approach Instructions, and Take-off and landing clearances
- The words TAKE-OFF are only used when an aircraft is cleared for TAKE-OFF. "DEPARTURE" is used at other times.
- TAKE-OFF clearance requires read back
- Full read back is required for instructions to ENTER, LAND, TAKE-OFF ON, BACKTRACK, HOLD SHORT OF or CROSS a runway
- APPROVED (and not CLEAR/CLEARED) is (should be!) used by ATC to indicate a positive response to a request
- Full read backs are required of Frequencies
- For passing instructions or reports regarding height/altitude or Flight level use CLIMB, DESCEND, PASSING, REACHING, MAINTAINING or LEAVING but ***NOT*** CLEARED/RECLEARED
- AFFIRM / NEGATIVE are used when a question requires a direct answer . ROGER is ***not*** to be used in this case
- Full read backs are required of heading / speed instructions
- VACATE runway is used and ***not*** CLEAR runway. e.g. "Dragon 810 Runway Vacated"

SUMMARY OF GOOD PRACTICE

- When given a new frequency wait for a couple of seconds before changing (gives ATC time to correct the frequency). Listen out on the new frequency for a few seconds to ensure that you are not about to interrupt another conversation.

- Think about what you are going to say
- Know and Use standard phraseology
- Avoid unnecessary words
- DO NOT use Jargon
- ACTIVELY LISTEN during approaches and departures for your call sign. Be aware when there might be possible mis-idents. (e,g, Dragon 213 and Dragon 321 on frequency at the same time or when JapanAIR or KoreanAIR are around)

PHRASEOLOGY FOR USE WITH TCAS

ATC and A/C callsigns are to be applied to each transmission as appropriate.

- **Notification of a manoeuvre initiated in response to an RA:**

  As soon as it is convenient to do so:

  Pilot: "TCAS RA"

  ATC: "ROGER".

- **When the A/C has begun returning to its assigned clearance:**

  Pilot: "CLEAR OF CONFLICT, RETURNING TO (assigned clearance)"

  ATC: "*ROGER*". A revised clearance may then be issued.

- **When the A/C has resumed assigned clearance following TCAS RA:**

  Pilot: "CLEAR OF CONFLICT, (assigned clearance) RESUMED"

  ATC: "*ROGER*". A revised clearance may then be issued.

- **Notification of inability to comply with an ATC instruction because a manoeuvre has been initiated in response to an RA:**

  As soon as it is convenient to do so:

  Pilot: "UNABLE, TCAS RA"

  ATC: "ROGER".

  The crew must inform the controller when they are again able to comply with ATC instructions.

  NOTE: 1. If the crew is unable to pass a message until, having responded to an RA, the A/C has begun returning to its assigned clearance, both messages should be combined thus:

  Pilot: "TCAS RA, CLEAR OF CONFLICT, RETURNING TO (assigned clearance)"

  ATC: "ROGER". A revised clearance may then be issued.

  NOTE: 2. If the crew is unable to pass a message until having responded to an RA and the A/C is once again complying with the assigned clearance, the message should be:

  Pilot: "TCAS RA ,(assigned clearance) RESUMED"

  ATC: "ROGER".

ATC ACTIONS

On being advised that a pilot is responding to an RA instruction, ATC will not issue any control instructions to the subject aircraft until the pilot reports returning to the terms of the current ATC instruction or clearance.

ATC Responsibility For Separation

Once a pilot departs from an ATC instruction or clearance in compliance with an RA, ATC ceases to be responsible for providing standard separation between that aircraft and other aircraft affected as a direct consequence of the manoeuvre induced by the RA instruction.

ATC will resume responsibility for providing standard separation for all aircraft affected when:

The controller acknowledges a report from the pilot of the aircraft that has responded to the RA stating that it has resumed its assigned ATC clearance, or

The controller acknowledges a report from the pilot of the aircraft that has responded to the RA, that it is returning to its assigned ATC clearance and then issues an alternative clearance that has been acknowledged by the pilot.

8.3.13.2 COMPANY PROCEDURES

English Language is to be used for operational communication in order to ensure clear crew communication and effective teamwork.

DISTRACTION OF COCKPIT CREW

During aircraft taxi, take-off, landing and flight below 15,000ft, except in cruise, Cockpit Crew should limit their activities to those required for the safe operation of the aircraft. Non-essential administration and communications should be reserved for less critical phases of flight.

DEPARTURE AND ARRIVAL BRIEFINGS

The briefing is a review of the expected Departure or Arrival procedure after consideration of all relevant data (ATIS, NOTAMS, Port Pages, Charts, MEL, etc) and should emphasise the relevant factors and threats. Normal Procedures are the basis of the briefing as is the use of Standard Company Calls and crew actions in the event of failures before or after V1.

The Commander/PIC shall ensure that all relevant details and threats are covered effectively.

C-TWO Plus Briefing Content

The Departure and Arrival briefing consists of 5 modules.

1. **C**hart
2. **T**errain
3. **W**eather
4. **O**perational
5. **P**lus **T**hreats

Each of these modules shall be addressed every Departure and Arrival Briefing and shall be considered in the context of THREATS and counter-measure STRATEGIES.

The applicable Fleet Flight Crew Training Manual (FCTM) contains the Briefing Guidelines and Examples of effective Briefings.

COMMUNICATION WITH CABIN CREW AND PASSENGERS

Before Engine Start

PHASE	CALL / ACTION	BY	MEANING / ACTION
BEFORE ENGINE START	"***AIRCRAFT READY FOR BOARDING***" (Outstations only)	F/A1	Commander will advise if he requires boarding to be delayed.
	"***PASSENGERS BOARDING***" (Outstations only)	F/A1	Boarding has commenced.
	"***ALL PASSENGERS ON BOARD***" (For all departures) "***CONFIRM CLOSE AND ARM DOORS***"	F/A1	The head count has been completed and the correct number of passengers is on board. All passengers and Papers are on board. Commander will advise if aircraft doors may be closed and armed.
	AFTER SAFETY DEMONSTRATION Press Cabin Ready CDSS Switch	F/A1	Indicates to cockpit crew that Safety Demonstration has been completed and the Cabin is Secure.
	If Cabin Ready CDSS function unavailable, when convenient the PM calls FA1 on Cabin Interphone to confirm that cabin is Secure.	PM	PM announces to PF that the Cabin is Secure

Before Take-off

A. The Captain's welcome announcement should ask passengers to pay particular attention to the safety briefing. This briefing clearly lays out the Company policy on wearing seatbelts during flight. If turbulence is forecast, the Commander should emphasise the importance of observing the seatbelt sign for passengers own safety.

B. If turbulence is anticipated on the initial climb, brief the Cabin Crew accordingly, with emphasis on remaining seated with seat belts securely fastened until clearance to commence the cabin service has been received from the Captain. The NO SMOKING and SEATBELTS signs should be left on until positively clear of the turbulent area. Crew will remain seated until the seatbelts signs are cycled or extinguished, after which they may commence cabin service.

C. When approaching the departure runway the PM will announce on the PA, "Cabin Crew please be seated for take-off". The FA1 will advise the cockpit, either verbally or through the "Cabin Ready" notification, that the pre-takeoff preparations are complete and that the Cabin Crew are seated.

After Take-off

A. Commence Cabin Service

Seatbelt sign will be cycled OFF/ON to indicate that the Cabin Crew may commence service after take-off.

B. Seatbelt Signs

When conditions are suitable for passengers to move around the cabin the seatbelt signs should be switched to AUTO/OFF

Enroute

During light turbulence, the Captain will switch on the SEATBELTS sign and all passengers will fasten their seatbelts. Cabin Crew shall check that all passengers are seated with seatbelts fastened and report to their section leaders. Cabin Crew may continue with their normal duties, however hot beverages, noodles, soup etc must not be served. If cabin service is taking place or likely to be disrupted, the FA1 should consult with the Captain to ascertain the situation. At the Captain's discretion the service may be continued, otherwise an announcement should be made suspending service. Flight Attendants should be prepared to discontinue service and stow all loose equipment at short notice.

Should moderate to severe turbulence be encountered, the Captain will advise the Cabin Crew to be seated via the PA as follows:

"Please note that the seatbelt signs are switched on, Cabin Crew please be seated"

In case of the PA system being U/S the seatbelt signs should be cycled once. Cabin Crew should immediately stow all loose equipment then sit in any convenient seat with their seatbelt fastened. Cabin Crew must respond as quickly as possible, as the situation may rapidly deteriorate.

The Commander will advise the Cabin Crew approximately 30 minutes before landing via interphone to FA1.

Descent/Approach

The seatbelt sign will be switched ON passing 20,000ft in descent to indicate to the Cabin Crew approximately 15 minutes to landing, and a PA should be made by PM "Cabin Crew, Prepare the cabin for landing". The seatbelt sign should not be cycled if previously selected on.

The seatbelt sign will be cycled OFF/ON at 10,000ft during descent to indicate to the Cabin Crew approximately 10 minutes to landing.

At approximately 5 minutes to landing a PA should be made advising the Cabin Crew to be seated for landing. This call should be made at or before 5,000ft. The FA1 will advise the cockpit, either verbally or through the "Cabin Ready" notification, that the Cabin Crew are seated.

Unserviceable PA or 'Cabin Ready' CDSS Function

a. The Seatbelt sign will be cycled once as a turbulence alert in the event of the P.A. system being U/S.

b. In the event of an aircraft being dispatched with the PA inoperative the Capt should use the Cabin Interphone to convey all commands to the FA1, this will cover all events including "Evacuate", "Attention! Cabin Crew at Stations", "Cabin Crew Resume Duties" etc.

c. When the PA is inoperative, the alternative signal for ordering the Cabin Crew and passengers to assume the "brace" position is to switch the seatbelts sign Off and On six or more times. If possible this should be done 30 seconds before impact.

d. If Cabin Ready CDSS function is unavailable, at a convenient time during the approach the PM should call FA1 on Cabin Interphone to confirm cabin is secure.

COMMUNICATIONS WITH GROUND CREW

Normal Start Procedure

DESCRIPTION - "***INITIATING CALLS***" "RESPONSES"

EVENT	PF	GROUND MECHANIC
GPU REQUIRED	"***CONNECT THE GPU***" Check systems pages to ensure external equipment functioning correctly.	
ASU AIR REQUIRED	"***CONNECT EXTERNAL AIR***"	
READY FOR START	"***READY TO START ENGINE [1] [2]***"	"CLEAR START ENGINE [1] [2]"
IF GPU/ASU USED	"***REMOVE GROUND EQUIPMENT***" Check systems pages as appropriate	"GROUND EQUIPMENT REMOVED"
READY FOR PUSH BACK PF releases the parking brake	"***CLEAR TO PUSH BACK***" "PARKING BRAKE RELEASED"	"RELEASE THE PARKING BRAKE"
WHEN PUSH BACK COMPLETED PF sets parking brake to ON	"PARKING BRAKE SET"	"PUSH BACK COMPLETE, SET PARKING BRAKE"
WHEN READY TO DISCONNECT (When after start procedures are completed)	"***CLEAR TO DISCONNECT***"	"DISCONNECTING, HAND SIGNALS ON THE RIGHT/LEFT"

NOTES:
1. The use of "Released" and "Set" for parking brake will prevent misunderstanding which can occur if "On" and "Off" are used.
2. If intercom is not available, the standard hand signals for brakes are: Park Brake ***SET***: Clenched fist, palm side forward. Park Brake ***RELEASED***: Open hand, fingers spread, and palm side forward.
3. Should the Cockpit Crew require the Ground Engineer to return to the aircraft after headset disconnection, they should flash the runway turn off lights twice. The Ground Engineer will then return to the aircraft and re-establish communications with the Cockpit.

PUBLIC ADDRESS ANNOUNCEMENTS

The PA system is primarily a safety tool for communication between the flight deck and the cabin. As a public relations tool it can enhance the image of the airline. The public relations value of announcements from the flight deck should not be underestimated. Below are a few considerations:

a. The Captain will make all introductory announcements.

b. Announcements should be concise.

c. Use English only.

d. Routine PA announcements are not to be made during climb or descent

Pre-Departure

The normal sequence of events leading up to a welcoming PA is:

a. The Captain will normally complete the welcoming PA a few minutes before the doors are closed.

b. The FA1 will inform the Captain when all passengers are on board.

c. Where appropriate he should use this as an opportunity to explain any delays. Where an extended delay is expected the Captain should liaise with the Ramp Coordinator to ensure a coordinated approach to delay management. (refer to Part A 8.9.1.1)

d. The FA1 will wait (a reasonable period) for the Captain to do his welcoming PA before starting the greeting announcement and safety demonstration.

Prior to Top of Descent

This should include the revised ETA and weather at destination. This opportunity may be taken to bid farewell to the passengers and to thank them for choosing to fly with Dragonair.

STANDARD CALLS AND PILOT INCAPACITATION

Flight Crew should be especially alert to the possibility of incapacitation during periods of high workload such as Take Off and approach. Standard calls that are missed or inappropriate responses to such calls may be one of the first indications of subtle incapacitation. The “1000” auto call is primarily an incapacitation check. PM must take control if he does not receive a response to a second challenge of that or any other call.

ABNORMAL SITUATIONS

FCOM/PRO-ABN and Volume 7.5.1 describe crew duties in abnormal situations involving passenger evacuations, Emergency and Precautionary Landings.

Emergency Alert

The Cockpit Crew will use the order:

“ATTENTION! CABIN CREW AT STATIONS!” in the following situations:

- At 2000ft AAL prior to an Emergency Landing
- On ground emergency
- Rejected Take-Off
- If the Cabin Crew are not seated and an emergency or abnormal situation requires the crew to immediately return to their seats.

This alert level should be cancelled, when appropriate, using the phrase

“CABIN CREW RESUME DUTIES”

Commanders Brief To FA1

The commander will direct the FA1 on whether to prepare for a Precautionary or Emergency Landing. The commander will then brief FA1 in the following format:

N Nature of the abnormal

I Intended destination

T Time available until landing

S Special instructions (eg unserviceable / unusable exits and any other important instructions)

R FA1 must now repeat the information back to the Commander, including the type of landing (Precautionary/Emergency) to confirm that she has a clear understanding of the situation.

Should any of the details of the situation change after the briefing, the Commander must inform the FA1, particularly if the intended destination has changed, or the situation warrants an upgrading of a Precautionary Landing to an Emergency Landing.

Precautionary Landing

A Precautionary Landing is executed when there has been an abnormal or emergency occurrence with the aircraft, where in the commander's opinion an emergency evacuation is not anticipated (e.g. engine failure).

Following the NITSR briefing from the Commander, the FA1 is to brief the cabin staff to prepare the "cabin only" for a possible emergency evacuation.

After landing the Commander is to inform FA1 of his intentions. In the event that the Commander fails to do this, FA1 must contact the Flight Deck and ask the Commander for his intentions

Emergency Landing And Ditching

The Commander is to inform FA1 using the NITSR brief, however in the special instructions he must indicate which exits may be used and any other important information relating to the situation. The FA1 will then brief the other cabin staff, indicate the exits to be used and time remaining for preparation.

Commander's PA to Passengers

The Commander will make an announcement to the passengers regarding the nature of an Emergency Landing. Announcements for a Precautionary Landing will not be required unless there is a change of destination or the situation is obvious to the passengers (e.g. engine failure, electrical failures resulting in a loss of cabin lighting etc). Whilst it is not necessary to go into specific detail of the technical aspects of the situation, it is advised to use a similar briefing technique as for FA1.

N Nature of the abnormal

I Intended destination

T Time until landing

Care must be taken not to unduly alarm the passengers with the PA. Be clear and concise

Communication During an Emergency

In order to establish a standard communication format between Flight Deck Crew and Cabin Crew during an emergency, the following phraseology is for all Flight Deck Crew to follow.

EVENT	CAPTAIN	MEANING
AT 2000 feet AAL	**"ATTENTION! CABIN CREW AT STATIONS"**	Cabin Crew return to emergency stations and be seated
AT 500 feet AAL	**"BRACE! BRACE!"** If the PA system is unserviceable, the Commander is to cycle the seat belts sign six or more times.	Passengers and Cabin Crew adopt the correct position for landing.
To initiate an EVACUATION	**"EVACUATE! EVACUATE!"** and press the EVAC pushbutton	Cabin Crew commence the evacuation procedure
Emergency Descent	**"ATTENTION! EMERGENCY DESCENT!"** (PA by the PM)	Cabin Crew return to emergency stations and be seated. If cabin oxygen masks drop Cabin Crew will sit in the nearest seat and don masks.

CABIN STAFF INITIATIVE

Cabin crew are encouraged to communicate any abnormality they observe to the Flight Deck crew, either by entering the flight deck or on the service interphone. It is particularly important to report any signs of smoke or fire either within the cabin or from the aircraft engines or airframe to the pilots immediately. In such cases, the cabin crew could provide vital information that is not available to the pilots. It must not be assumed that the flight deck crew already know the information.

Although it is normal crew practice to await guidance from the commander following a rejected Take Off, Precautionary Landing or Emergency Landing, cabin crew are taught, and encouraged, to use their own initiative to instigate a passenger evacuation, once the aircraft has come to a halt, if the situation obviously dictates this course of action.

COMPANY OPERATIONAL COMMUNICATIONS

"***Cathay Ops***"	131.75 IOC. Responsible for the overall monitoring of company operations.
"***Dragon Dispatch***"	131.75 Flight Dispatch. Responsible for all Flight Dispatch related paperwork.
"***Cathay Engineering***"	131.75 CX Engineering. Responsible for defect monitoring and technical support.
"***Dragon Hong Kong***"	131.75 HKIA Hub Station Control. Responsible for gate allocation, crew bus, etc.

Company telephone contact details are published in the Hong Kong Port Page.

When contacting the company using ACARS free text, messages requiring priority attention should be prefixed in the first line as follows:

OPS	For operational issues.
ENG	For engineering messages.
HUB	For gate allocation, crew bus requests, etc.
MED	For medical advice (MEDLINK).

Routine messages without a prefix will not receive the same priority due to the volume of ACARS traffic.

Address/SITA Codes

All SITA messages from outstations, are to be addressed to specific office bearers to enable efficient response. Listed below are the more frequently required abbreviations and SITA codes.

POSITION	**ABBREVIATIONS**	**SITA**
GENERAL MANAGER OPERATIONS	GMO	HKGOZKA
ASSISTANT GENERAL MANAGER FLYING	AGMF	HKGOZKA
ASSISTANT GENERAL MANAGER OPERATIONS	AGMO	HKGOZKA
--- **FLEET OFFICE (Common)**		**HKGOAKA**
CHIEF PILOT AIRBUS	CPA	
DEPUTY CHIEF PILOT AIRBUS	DCPA	
FLIGHT CREW RELATIONS MANAGER	FCRM	
TECHNICAL MANAGER AIRBUS	TMA	HKGOKKA
-- **LINE OPERATIONS (Common)**		**HKGOAKA**
MANAGER LINE OPERATIONS	MLO	
DEPUTY MANAGER LINE OPERATIONS	DMLO	
LINE OPERATION MANAGER	LOM	
-- **FLIGHT CREW TRAINING (Common)**		**HKGOTKA**
MANAGER FLYING TRAINING	MFT	
FLYING TRAINING MANAGER STANDARDS	FTMS	
DEPUTY FLYING TRAINING MANAGER STANDARDS	DFTMS	

FLYING TRAINING MANAGER A320	FTM320	
FLYING TRAINING MANAGER A330	FTM330	
DEPUTY FLYING TRAINING MANAGER AIRBUS	DFTMA	
CREW RESOURCES MANAGEMENT OFFICER	CRMO	
MANAGER GROUND TRAINING	MGT	HKGOUKA
-- **OPERATIONAL SERVICES**		
MANAGER OPERATIONAL SERVICES	MOS	HKGOOKA
FLIGHT PUBLICATIONS SECTION	FLT PUBS	HKGOFKA
-- **OTHERS**		
MANAGER AIRCREW	MA	HKGOCKA
MANAGER CREW RESOURCES	MCR	nil
MANAGER AIRCREW PERSONNEL	MA(PER)	nil
MANAGER SECURITY	M(SEC)	HKGOSKA
IOC	IOC	HKGWNCX
CREW CONTROL	ICM	HKGOEKA
HEAD OF CORPORATE SAFETY AND QUALITY	H(CSQ)	HKGOQKA
MANAGER AIRPORT SERVICES	M(AS)	HKGGWKA
MANAGER CABIN CREW	M(CC)	HKGHCKA
GENERAL MANAGER INFLIGHT SERVICES	GM(ISD)	nil
HEAD OF ENGINEERING	H(ENG)	HKGMMKA

CONTROLLER-PILOT DATALINK COMMUNICATIONS (CPDLC) PROCEDURES (FANS)

Introduction

Controller-Pilot Datalink Communications (CPDLC) provides surveillance and direct controller – pilot communications capabilities to appropriately equipped aircraft beyond the range of existing radar and VHF voice.

Automatic Dependent Surveillance (ADS) is ATC controlled and is an independent system to CPDLC. ADS negates the requirement to downlink position reports as these are managed automatically by the ATC side of the ADS system.

CPDLC supports the following services:

A. Emergency alerting.

B. Pilot-Controller downlink of ATC position reports, requests and queries.

C. Controller-Pilot uplink of ATC clearances, instructions and replies.

D. Free Text to supplement standard reports and clearance.

Area of Operations

Australia, Chennai FIR, Japan Oceanic, Kolkata FIR, Mumbai FIR, New Zealand, Oakland ACC, Singapore, Mongolia.

Logon Procedures

Before CPDLC and ADS connections can be established, the aircraft must “LOGON” to the ground system via the ATS Facility Notification (AFN) LOGON process. AFN

LOGON addresses for a specific flight are shown in the body of the CFP.

The callsign to be completed between 15-45 minutes prior to STD when departing from airfields within CPDLC airspace or before the relevant FIR boundary.

Position Reporting

A crew initiated CPDLC position report is required when first entering or crossing an FIR boundary, irrespective of the ADS connection status. In addition, an initial position report shall be made on VHF, or HF with a SELCAL check, to establish a secondary means of communication. If unable to establish a CPDLC connection, ATC should be advised. The ADS function will then, normally, obviate the need for position reporting.

NOTE: Do not add waypoints on the FMS Legs/FLT PLN pages to avoid these points being transmitted to ATC via CPDLC.

Protocol

The use of Free Text should be kept to a minimum and should only be used when an appropriate pre-formatted message element does not exist.

Each CPDLC downlink should contain only a single request.

Use of WILCO means acceptance of FULL terms of uplink message.

Controller-Pilot dialogues opened by voice should be closed by voice. Dialogues opened by CPDLC should be closed by CPDLC.

Cruise climb/route modification requests are not processed in certain FIRs and should be requested by VHF or HF.

Transfer of Datalink Services

Transfer to adjacent units is normally “address forwarded” automatically at the FIR boundary. If the next ATS unit is not active within 5 minutes, terminate the connection then logon to appropriate ATS unit.

Termination of Datalink Services

CPDLC connections will be terminated at the FIR boundary position or when entering radar coverage.

Example: Contact Singapore Radar 132.7 – On receipt of WLCO, ATC will send the END SERVICE message indicating connection is terminated.

Datalink Failure

If a datalink connection failure is recognised, establish communications on VHF, HF or Satcom. In the event of ADS failure, resume normal reporting by CPDLC or voice.

Emergency Procedures

Downlinking the EMERGENCY REPRT page automatically declares an emergency and switches ADS ARMED mode to EMERGENCY mode. ATC will respond with either a voice message or CPDLC uplink of “ROGER”. A crew response is not required to this message. Voice contact should be established as soon as practicable.

Inadvertent ADS Emergency Activation/Unlawful Interference

When the ADS EMERGENCY mode is activated WITHOUT a downlink of the EMERGENCY REPORT or a voice confirmation, and the aircraft appears to be maintaining normal operations (e.g. not in descent or performing abrupt manoeuvres), ATC will assume that the aircraft may have been subject to unlawful interference.

To confirm if the activation of the ADS EMERGENCY mode was covert or inadvertent, ATC will append a “Confirm ADS” to a “Confirm Speed” CPDLC uplink or voice message e.g.

Controller: “Confirm Speed” “Confirm ADS”

The crew must check the status of the aircraft’s ADS EMERGENCY mode. If the EMERGENCY mode has been activated inadvertently, the crew shall select EMERGECNY mode to “OFF” and advise ATC by voice or the following CPDLC Free Text downlink:

Pilot: “ADS Reset”

If the aircraft continues with the ADS EMERGENCY mode activated, ATC will assume the aircraft has an Emergency situation and follow normal alerting procedures.

8.3.14 NON-NORMAL OPERATIONS

8.3.14.1 CIRCUIT BREAKERS

The main function of a circuit breaker is to protect the aircraft systems and installations against a possible short circuit or electrical arcing. Current in-service experience shows very high reliability of circuit breakers − a tripped breaker being a very reliable indication of there being a fault in the system.

Company policy is:

A. In-flight

A tripped circuit breaker must not be reset in-flight unless the procedure is clearly defined in the QRH.

The only exception to this policy is where the aircraft Commander judges that the situation resulting from the circuit breaker trip has an adverse effect on flight safety. In such cases the tripped circuit breaker may be reset once. If it subsequently trips, it must not be reset.

Cycling a circuit breaker in order to restore a malfunctioning system is permitted providing the consequences of such an action are fully understood.

In all cases advice should be sought, whenever possible, from CX Engineering.

Crew members are not permitted to reset or cycle any circuit breaker located on a remote panel or in the Avionics Bay without specific authorisation from the Duty Operations Manager (DOM). The DOM should be contacted through IOC and will conduct a risk assessment prior to granting such authority.

An authorisation to enter the Avionics Bay will only be granted to a crewmember qualified on the aircraft type and where that crewmember is additional to the minimum operational cockpit crew. An ASR must be submitted at any time there is cause for a crewmember to enter the Avionics Bay during flight.

Cabin Crew are not permitted to reset or cycle circuit breakers located in the cabin. In such circumstances the aircraft Commander must be advised and he will determine the course of action to be followed.

B. On the ground

A tripped circuit breaker must not be reset unless the action is co-ordinated with maintenance personnel and the cause of the circuit breaker tripping has been identified.

Similarly, cycling a circuit breaker to restore a malfunctioning system should be co-ordinated with maintenance personnel or CX Engineering. In all cases the aircraft should be stationary with the parking brake set during the reset.

8.3.14.2 FLIGHT IRREGULARITY

An aircraft Commander whose aircraft is subjected to any flight irregularity is to contact IOC at the earliest opportunity.

IOC is responsible for ensuring all possible support is given to the Commander, and for informing the Commander of any last minute change to the preferred alternate. IOC will arrange contact with the DOM if required.

8.3.14.3 EMERGENCY

The crew member detecting an existing or impending emergency or abnormal condition must immediately call out the condition. The Commander, or in his absence from the cockpit the second in command, must take the necessary action to ensure that control of the aircraft is established and maintained.

It is necessary to react quickly to some emergency/abnormal situations e.g. a rejected

take-off. It is incumbent upon all pilots to be prepared for these and other malfunctions requiring swift corrective action.

Consideration should be given to the use of the autopilot where possible during the completion of procedures.

8.3.14.4 EMERGENCY AND ABNORMAL CHECKLIST PROCEDURES

The completion of emergency and abnormal checklist actions should commences only when the airplane flight path and configuration are properly established. Few situations require an immediate response. Usually, time is available to assess the situation before corrective action is initiated. All actions should then be coordinated under the Commander's supervision and performed in a deliberate, systematic manner. Under no circumstance should flight path control be compromised.

It is important that each pilot monitors the other during emergency / abnormal procedures. When dealing with an engine malfunction it is vital for both pilots to confirm the identity of the engine. Corrective action must be taken in a positive and deliberate manner.

In the event of an in-flight engine shutdown consideration must be given to landing at the nearest suitable airport. It is the Commander's decision as to the relative suitability of an airport if more than one airport is available. The prime requirement following a shutdown is to ensure the continued safety of the aircraft and its occupants.

Checking circuit breakers and testing lights are normal crew actions and not listed in the procedure unless there is a specific requirement.

8.3.14.5 ENGINE INOPERATIVE PROCEDURES

If an Engine Inoperative Procedure is specified on a Port Page for a given runway, then the applicable Take Off Performance Data has been calculated using that procedure to avoid one or more obstacles.

8.3.14.6 BOMB ON BOARD AND BOMB THREATS

Bomb On Board QRH details actions to be taken if a bomb is found on board an aircraft in flight.

It should be noted, however, that the guidance given by the Operations Manual in the case where a suspicious object(s) has been found during flight is to "Use all airport facilities to disembark without delay."

A bomb threat, however, presents the crew with a different scenario. Vol.7.1.17 details the course of action in case of a bomb threat, be it Red/Amber (specific) or Green (non specific).

It is worthy of note that the recommended course of action after landing is to park the aircraft well away from the terminal and other aircraft and for passengers to be disembarked normally, albeit expeditiously. Ref: Vol.7.1.17 page 1.

8.3.14.7 DEPRESSURIZATION AND IN-FLIGHT ENGINE SHUTDOWN OPERATIONAL GUIDELINES

ENGINE INOPERATIVE

A 2-engine aircraft with an engine shutdown in-flight should land at the nearest suitable airport. It is the Commander's decision as to the relative suitability of an airport if more than one airport is available.

If an engine should fail in-flight, a careful assessment of the failed engine's mechanical condition should be completed before any attempt is made to relight the engine. IOC should be contacted for Engineering guidance prior to an attempted air-start, unless the risk to flight safety is greater by delaying the attempted air-start.

FLIGHT BEYOND THE NEAREST SUITABLE AIRPORT

Unless the structural integrity of the aircraft is in doubt, there is no requirement for an aircraft to land within a given time scale after a depressurisation event.

The Commander may, after taking all factors into consideration and assuring himself that it is safe to do so, elect to continue to any suitable airport. The course of action will normally be dictated by the fuel available.

If continuing to filed destination, Normal Fuel Required must be available unless the requirements of In-flight Reduction of Normal Fuel Required can be met.

NOTE: The 5% contingency fuel build up included at the planning stage, is not an inflight requirement.

8.3.14.8 INFLIGHT SIMULATION OF EMERGENCY SITUATIONS

When passengers and/or cargo are being transported on Dragonair aircraft, inflight simulation of emergency situations is prohibited

8.4 ALL WEATHER OPERATIONS (AWO)

8.4.1 DEFINITIONS

All Weather Operations include any taxi, take-off or landing operation in conditions where visual reference is limited by weather.

LOW VISIBILITY OPERATIONS (LVO)

Low Visibility Operations (LVO) are ICAO requirements imposed on Operators for the conduct of AWO. They are defined as:

a. take-off (referred to as Low Visibility Take-off (LVTO)) with an RVR less than 400m.

b. landing with an RVR less than 550m.

LOW VISIBILITY PROCEDURES (LVP)

Low Visibility Procedures (LVP) are ICAO requirements imposed on airport authorities for the conduct of AWO. They are defined as:

Procedures applied at an airport for the purpose of ensuring safe operation during approaches below Standard Category 1 and during LVTO.

Note: ICAO requires LVP to be in force for all take-offs below 550m RVR, not only LVTO (400m).

8.4.2 GENERAL LVO REQUIREMENTS

The table below details the HK CAD approved minimum DH, RVR and visual reference required to complete an approach to landing for all Dragonair aircraft types (unless otherwise specified). Company minima, as specified on the applicable Port Page, may be above the limits shown below.

a. Approval to operate to LVO is indicated on the Port Page. The appropriate minima for take-off and landing are listed on the LVO port page.

LVO minima are derived from the higher of HK CAD, Dragonair or State minima and shall be used in conjunction with the Jeppesen chart for the approach. This may be a CAT 1 plate, however a CAT 2 or CAT 3 approach plate must be used when so published, as certain states publish a different missed approach procedure for use solely during LVO.

Only Dragonair derived LVO minima, as published on the LVO Port Page, shall be used for any LVO approach.

Jeppesen defined LVO minima on CAT 2 and 3 plates are not approved and must not be used for any LVO approach.

b. In the case of CAT 2 DH, the minimum altitude specified is above runway threshold, therefore the published DH may be lower or higher than 100 FT due to undulating terrain at DH.

c. CAT 2 approaches: Touchdown RVR (TDZ) is controlling and shall be at, or above, the published minima. Dragonair policy is to designate Midpoint RVR (MID) as controlling. Rollout (Stop End) RVR (RO) is of an advisory nature and shall be considered by the Commander/PIC if relevant.

CAT 3A approaches: Touchdown RVR (TDZ) and Midpoint RVR (MID) are controlling and shall be at, or above, the published minima. Rollout (Stop End) RVR (RO) is normally of an advisory nature and shall be considered by the Commander/PIC if relevant. If MID RVR is temporarily unserviceable, RO RVR is controlling and shall be at, or above, the published MID RVR minimum.

CAT 3B (No DH) approaches: Touchdown RVR (TDZ), Midpoint RVR (MID) and Rollout (Stop End) RVR (RO) are controlling and shall be at, or above, the published minima. In the event that one transmissometer is temporarily inoperative,

CAT 3B (No DH) operations may continue using the two remaining transmissometers and both reported RVRs are controlling.

d. RVR readings must be available for all LVO approaches.

Reported visibility may not be factored to obtain an equivalent RVR for any LVO operation.

8.4.3 MINIMA

LANDING MINIMA, RVR, VISUAL REFERENCE AND CROSSWIND LIMITS

	MIN DH	MINIMUM RVR			Visual Reference Required	Crosswind Limit
		TDZ	MID	RO		
CAT 2	100 FT	300 M	150 M	Advisory	Approach environment and threshold	Aircraft Approved LVO Limit
CAT 3A	50 FT	200 M	150 M	Advisory*	3 centreline lights	
CAT 3B (no DH)	0 FT	75 M**	75 M**	75 M**	Not required	

* MID RVR may be temporarily inoperative. In such cases, RO RVR reading is controlling and shall be at or above the published MID RVR minimum.

** Three transmissometers are required and are controlling. In the event that one transmissometer is temporarily inoperative, Cat 3B (No DH) operations may continue using the two remaining transmissometers and both RVR reports are controlling.

8.4.4 RVR DETERIORATION

If the reported RVR readings decrease below the specified minima prior to 1,000ft AAL, the approach may be continued to 1,000ft AAL. If the RVR remains below minima at 1,000ft AAL, the approach must be discontinued (Approach ban).

If the reported RVR readings decrease below the specified minima below 1,000ft AAL, the approach may be continued to the DH/DA and, providing the required visual reference is established and maintained, the approach may continue to a landing.

On a CAT 3B approach with 0ft DH, the landing may be completed, as visual reference is not required until after nose wheel touchdown.

8.4.5 LVO OPERATIONAL REQUIREMENTS

Pilot Flying (PF) and Pilot Monitoring (PM) shall be LVO qualified. The PF shall be the Commander/PIC operating from the left seat, except when an emergency or crew incapacitation exists. Command Trainees may operate as PF in the left seat with a LVO qualified Training Captain performing PM duties in the right seat.

LVO approaches shall be planned and flown using Automatic Approach procedures, planning to culminate in an autoland.

The Commander/PIC shall ensure the relevant Port Page is reviewed prior to commencing a LVO approach to confirm LVO approval and Port-specific requirements.

8.4.6 LVO AIRCRAFT REQUIREMENTS

For approaches to CAT 3B minima, use of Automatic thrust control system in the approach mode is mandatory.

8.4.7 LVO AIRPORT REQUIREMENTS

The Commander must be satisfied that Low Visibility Procedures (LVP) are in force before commencing any LVO approach. Clearance to fly a CAT 2 or CAT 3 approach is considered confirmation that LVP are in force.

Airport Operators will implement Low Visibility Procedures before commencing LVO operations.

Pilots must be aware of the ILS sensitive/critical areas and LVP holding points when taxying to the runway and when taxiing to or from the LVP runway.

Serviceability of the airport surface area, navigation aids, ground equipment and services is the responsibility of the airport operator. When LVP are in force, crews should assume the airfield operator has complied with all special procedures, lighting requirements and electrical requirements.

If RVR readings improve during the approach, ATC may cancel LVP and revert to CAT 1 operations resulting in a loss of signal protection for CAT 2 and CAT 3 ILS procedures.

At some airports, particularly in Europe, ATC may announce either on VHF or via ATIS, that LVO is operational to CAT 2 only. This permits ATC to reduce aircraft arrival spacing to less than that required for CAT 3 operations. The airport surface area is still protected, however ILS signals may be affected by preceding traffic due to the reduction in arrival spacing. Due to high traffic density at major international airports, it is unlikely that ATC will approve a Flight Crew request for a CAT 3 approach unless the RVR readings do not permit CAT 2 operations.

8.4.8 RVR REPORTING

Touchdown, Mid-point and Roll-out (Stop End) RVR readings shall be passed to aircraft when they are at or below specific values. These values vary depending on the regulatory authority but are generally below 800 metres. Changes in RVR values should be reported to the pilot in 50 metre increments with a delay not exceeding 30 seconds. When RVR is below 400 metres, these reports should be in 25 metre increments with a delay not exceeding 15 seconds.

8.4.9 EFFECT OF FAILED OR DOWNGRADED GROUND EQUIPMENT

If an aircraft or airport systems failure necessitates a reversion to a degraded approach category, the approach may not commence (i.e. descend below 1,000ft AAL) or continue, if already below 1,000ft AAL, unless the RVR readings are at or above the minima for the degraded approach category.

Refer to Part A 8.3.6.3.

8.5 ETOPS

8.5.1 GENERAL

8.5.1.1 ETOPS FLIGHT OPERATIONS SUPERVISORY OVERVIEW

Manager Line Operations is responsible for ETOPS operational functions. Detailed supervisory and organisation details are recorded in the Line Operations Policy and Procedures Manual.

All operational feedback and questions relating to ETOPS operations should be addressed, in the first instance, to Line Operations.

8.5.1.2 ETOPS DEFINITIONS

EXTENDED OPERATIONS (ETOPS)

The following flights are considered as ETOPS flights:

a. Operations of a twin engined aircraft conducted over a route that contains a point further than 60 minutes flying time in still air, at the specified one engine inoperative cruising speed, from an adequate airport.

b. At a future date, yet to be specified, operations in a four engined aircraft conducted over a route that contains a point further than 180 minutes flying time in still air, at the specified one engine inoperative cruising speed, from an adequate airport.

ADEQUATE AIRPORT

a. An Adequate airport is an airport which has sufficient runway length and taxiway availability for use by the aircraft type, is equipped with the necessary ancillary services such as ATC, lighting, and weather reporting, at least one serviceable navigation aid or a suitable RNAV- RNP/GPS (GNSS) approach and has adequate RFF.

b. All airports in the aircraft library, except those specifically excluded in the table below have been assessed as adequate to support ETOPS operations.

c. Adequate Airport, exclusion list.

The airports in this list may not be used for ETOPS flight planning purposes

AIRPORT	RESTRICTION	ICAO
Port Blair	Insufficient data available	VOPB

ETOPS ENROUTE ALTERNATE AIRPORT (ETOPS ERA)

a. An ETOPS ERA is an Adequate airport where weather reports and forecasts, or any combination thereof, indicates the ceiling, visibility and crosswind at the time of intended operation will be at or above the operating minima. Additionally, the ETOPS ERA shall have an ATC facility and at least one instrument approach procedure.

b. The same criteria shall also be applied to the departure or destination airport when it is used to support an ETOPS route segment.

RULE DISTANCE

a. Rule Distance is used for flight planning and is calculated for each aircraft type, at the one engine inoperative MMO/VMO speed. The resultant distance is the maximum distance the aircraft may be operated from an Adequate airport.

b. The Rule Distance for Dragonair Airbus A330 with RR Trent engines is:

60 Minutes 434nm

120 Minutes 853nm

RULE TIME

Rule Time is the maximum still air diversion time which may be planned for a flight from an Adequate airport. The approved times for the aircraft's most limiting ETOPS significant system and most limiting cargo fire suppression capability are considered when permitted Rule Times are determined and authorised. The Rule Time is currently 120 minutes.

ETOPS ROUTE SEGMENT(S)

a. An ETOPS route segment is any segment (or segments) of a flight where the aircraft is more than the equivalent of 60 minutes Rule Distance from an Adequate airport.

b. The ETOPS segment starts when the aircraft exceeds the equivalent of 60 minutes Rule Distance (ETOPS Entry Point - EEP) from an Adequate airport and ceases when the aircraft is within the equivalent of 60 minutes Rule Distance of another Adequate airport (ETOPS Exit Point - EXP).

EQUI TIME POINT (ETP)

The ETP is a point on the route that is an equal flying time from two ERAs.

CRITICAL FUEL POINT (CP)

The Critical Point is the point on the aircraft route that is most critical with regard to ETOPS fuel requirements. It is normally, but not always, the last enroute ETP.

CRITICAL FUEL SCENARIO

The most critical fuel scenario of either engine-inoperative or all engines operating is assessed, based on the following scenarios occurring at the Critical Point:

a. Immediate descent:

i. all engines operating but pressurisation failure at MMO/VMO to 10,000ft.

ii. one engine failure and pressurisation failure MMO/VMO to 10,000ft.

iii. one engine failure at MMO/VMO to the engine inoperative stabilising altitude.

b. Continued cruise at the following speeds to the diversion airport:

i. all engines operating but pressurisation failure; at LRC.

ii. one engine failure and pressurisation failure; at VMO.

iii. one engine failure; at VMO.

8.5.1.3 FUEL POLICY

Normal fuel policy applies, with the following exceptions:

Sufficient fuel shall be carried to permit the loss of pressurisation or an engine failure, or both, at any point on the intended route and predicated on the following:

a. the flight shall be continued to the nearest ERA* for landing;

b. hold at 1,500ft over the nearest ERA* for 15 minutes; and,

c. initiate an approach, followed by a missed approach, then continue to a normal approach and landing.

* see 'Diversion to an ERA', this section.

An additive for icing conditions during a diversion shall be applied when icing

conditions are forecast. To satisfy this requirement, the Airpath flight planning system uses a severe icing increment for all critical fuel calculations.

8.5.1.4 ETOPS FLIGHT PLANNING

PRIOR TO DISPATCH

a. The planning minima to be used for all airports which support the ETOPS segment of a route shall meet the criteria specified in 'Table A: Calculation of Minima for Filing as an Alternate' and associated Notes (Part A 8.1.4.2) from the earliest possible time of arrival until the latest possible time of arrival. This requirement also applies to the departure airport and/or destination airport where they support an ETOPS route segment.

b. Where a route is planned using a mixture of Rule Times, for example, 60 and 120 minutes, weather at airports where the 60 minute Rule Time is applied shall be at or above the landing minima at the time of intended use.

c. Flight Dispatch will check NOTAM and weather for the selected airports to ensure they meet the Planning requirements for an ETOPS ERA. The checking process will be annotated on the ETOPS Planning Form and made available to the operating crew as part of the flight documentation.

d. Primary aircraft system redundancy appropriate to ETOPS operation is reflected in the Minimum Equipment List (MEL). Any MEL item which affects ETOPS capability will be recorded in the Aircraft Maintenance Log (AML) as a PADD.

e. Prior to dispatch, the Commander shall ensure:

   i. The filed route remains within the rule distance used to plan the flight.

   ii. Weather and NOTAM information is verified for all planned ETOPS ERAs.

   iii. The appropriate critical fuel scenario is planned and the relevant data is shown on page 2 of the CFP.

   iv. There are no MEL items in the Aircraft Maintenance Log which have an impact on the planned ETOPS flight.

INFLIGHT PROCEDURES FOLLOWING DISPATCH

Flight Monitoring

a. All ETOPS flights will be monitored by Flight Dispatch NOTAM Desk and IOC. NOTAM and any other significant operational information affecting the flight, including any relevant ERAs, will be transmitted to the aircraft via ACARS or Satcom.

b. Crew shall monitor en-route weather following dispatch of the aircraft. If weather updates are not available through ATC or ATIS/HF VOLMET/ACARS, crew are to seek assistance from IOC.

c. A revised CFP may be sent to the aircraft via ACARS, if required.

Prior to the ETOPS Entry Point

a. Ensure the weather at the nominated ERA(s) remain above landing minima.

b. As the flight progresses, ensure FIX INFO functions are used to permit determination of direct tracks and distances to ERAs, ETOPS segment entry points, Critical Points and ETOPS segment exit points.

NOTE: Do not add waypoints on the FMS Legs/FLT PLN pages to avoid these points being transmitted to ATC via CPDLC.

Flight in the ETOPS segment

a. If weather conditions at an ETOPS ERA fall below landing minima, or the ETOPS ERA becomes unavailable for another reason, the Commander shall attempt to select another suitable ERA to support the route segment.

The new ETOPS ERA shall represent the best option available at the time. In practice, the aircraft shall remain on its planned route and determine the closest suitable ERA to the route, which may be the next, or previous, planned ERA.

b. Direct routing or re-routes provided by ATC shall be carefully considered to ensure the aircraft remains within the applicable Rule Distance of an ERA at all times.

Diversion to an ERA

a. The FCOMs specify those procedures which require the aircraft to “Land at the nearest suitable Airport" or "LAND ASAP”.

b. The Commander has final responsibility for the safe continued flight of the aircraft and it is not realistic to direct a course of action appropriate for all circumstances. Flight beyond the nearest suitable airport is only justifiable by the Commander if all relevant safety factors have been fully considered and the decision made in the interests of greater safety.

Factors which shall be considered are:

a. The nature of the malfunction and possible mechanical difficulties which may be encountered.

b. Operational effect of an inoperative system or systems.

c. Relative flight times to airports available for landing.

d. Flight time and distance to the airport selected for landing relative to the ETOPS approval limit.

e. Altitude, aircraft weight and remaining useable fuel at the time of system failure or malfunction.

f. Weather conditions en-route and at any available ERA.

g. Air Traffic Control limitations.

h. En-route and selected ERA terrain

i. Crew familiarity with the airport.

Enroute Diversion Procedures

a. Advise IOC of any diversion as soon as practicable.

b. The MMO/VMO one engine inoperative speed schedule is used solely to calculate the Rule Distances for flight planning.

c. The crew may adopt any diversion speed strategy they consider the most appropriate following assessment of the overall situation. There is no requirement to complete a diversion within the Rule Times used for flight planning purposes.

Therefore, diverting to an ERA does not therefore require use of MMO/VMO derived speed schedule unless the diversion is time critical, such as for a cargo fire, which would, in all probability, require the crew to conduct the diversion at maximum possible speed.

8.5.1.5 ETOPS VERIFICATION FLIGHTS

REQUIREMENT FOR VERIFICATION

a. When an ETOPS capable aircraft has a defect which would prevent ETOPS operation, the AML will contain a PADD which will clearly define the operating limitation.

b. On clearance of certain defects, or after significant engineering work on multiple aircraft systems, an ETOPS verification flight may be required before the PADD can be cleared in the AML.

VERIFICATION PROCESS

a. Engineering will annotate the requirement for a verification flight in the AML and will ensure Flight Dispatch is advised.

b. Once the requirement for a verification flight has been established there are three possible options which permit completion of the verification process:

i. A non ETOPS flight; this may be any normal revenue flight.

ii. A non revenue flight such as a ferry flight, or air test.

iii. The initial segment of an ETOPS flight prior to the aircraft entering the ETOPS segment of the route.

The initial segment of the flight prior to the ETOPS entry point must be a minimum of 90 minutes after departure, thereby permitting sufficient time for the crew to evaluate the serviceability of the aircraft system(s) which required the verification flight.

NOTE: The 90 minute requirement is only applicable when the verification is completed on an ETOPS sector and represents a minimum flight time prior to the ETOPS entry point. The time interval prior to the ETOPS entry point may be greater than 90 minutes.

The verification process on a non ETOPS sector only requires the flight duration to be long enough to establish that the system(s) requiring verification is/are now fully operable. There is no specified minimum flight time requirement.

ACTION REQUIRED PRIOR TO, DURING AND AFTER AN ETOPS VERIFICATION FLIGHT:

a. Engineering Requirements

i. A relevant entry must be made in the Aircraft Maintenance Log and deferred as an ETOPS PADD. The words “ETOPS Verification Flight Required” and the reason will be entered.

ii. After a verification flight, the Commander shall record the flight as satisfactory before the aircraft is deemed acceptable for further ETOPS operations. Engineering shall clear the related ETOPS PADD

iii. When the verification is completed on an ETOPS flight, the Commander must contact Cathay Pacific Maintenance Control after the completion of the first 90 minutes of flight, and prior to entering the ETOPS segment, with the results of the verification.

An ACARS message is normally the most appropriate method of communication to confirm the verification requirement has been completed.

iv. If the result of the verification flight indicates that the defect has not been rectified, a further verification flight will be required following further maintenance action.

b. Flight Planning Requirements

i. When a verification flight is required on an ETOPS sector, a second CFP will be prepared where feasible to allow crew to re-route via a non-ETOPS route

if the verification is not completed prior to reaching the planned ETOPS entry point. Crew shall load sufficient fuel to permit a re-route to a non ETOPS route, if so required, while ensuring the aircraft landing weight limit is not exceeded if the shorter ETOPS route is subsequently operated.

ii. Where re-routing to destination is not feasible via a non-ETOPS route, IOC are to be contacted to determine the diversion airport.

iii. The ATC plan will be filed on the ETOPS route. In the unlikely event that the verification is unsuccessful prior to reaching the ETOPS entry point, the crew shall advise ATC and request a re-route to the non-ETOPS route. IOC shall also be informed when practicable.

APU INFLIGHT START (HEALTH MONITORING REQUIREMENTS)

Engineering Maintenance Planning will occasionally make an AML entry for an APU inflight start to be actioned by the crew. The AML will be annotated as follows:

"ETOPS APU in flight start: Please start APU at or above FL 300, within 3 attempts, during sector length longer than 3 hours."

Crew should complete an AML entry on arrival to confirm the start was completed. e.g.: “APU inflight start completed, first attempt.”

NOTES:

The start attempt requires a “sector time” greater than 3 hours, not 3 hours above FL 300.

There is no requirement to record start parameters, just the number of start attempts.

The start requirement will normally be requested on flights inbound to Hong Kong to facilitate any fault diagnosis, however this is not mandatory. The APU inflight start request may be on any suitable sector.

8.6 ENGINEERING

8.6.1 GENERAL

8.6.1.1 AIRCRAFT SERVICEABILITY STATUS

Information regarding the serviceability status of Dragonair aircraft can be obtained from CATHAY Maintenance Control. Contact details are given on the Hong Kong port page.

Additionally, for flights departing Hong Kong, a paper copy of the PADD status is provided at despatch using the “Performance Acceptable Deferred Defect Report”. This report reflects the PADD status in Ultramain; as there can be a delay between the engineers raising or clearing a PADD and then updating Ultramain, there may be differences between the PADD Report and the actual aircraft status. Note also that this report is specific to Performance ADDs only – SADD status is not included.

A full listing of ADD status can be checked by crew using dedicated computers in Flight Despatch, or via the Dragonet.

8.6.1.2 A320/1 CIRCUIT BREAKER COLLARS

There are two types of circuit breaker collars; permanent and temporary.

Permanent circuit breaker collars are applied to systems that are deactivated under KA configuration.

Permanent circuit breaker collars are normally white plastic and lock wired. Systems that are deactivated and permanently collared are not listed in the AML.

Temporary circuit breaker collars may be fitted, e.g. to allow an aircraft dispatch under the provisions of the MEL. In this case the circuit breakers will normally be red plastic and not lock wired. Temporary circuit breaker collars, if fitted, will be identified in the ADD section of the AML. Occasionally non-standard collars may be used due to spares availability. In this case ensure an AML entry is made for fitting the correct collar at the earliest opportunity.

8.6.1.3 MAINTENANCE PROCEDURES

OM Vol.6 (MEL) general section provides a description of MEL and (M) coding, and states that an appropriate maintenance procedure must be carried out prior to the first flight undertaken following discovery of the defect and, if necessary, repeated at specific intervals during operation under the terms of the MEL to maintain the required level of safety.
Some items require a maintenance procedure to be carried out prior to each flight.

8.6.1.4 VERIFICATION FLIGHTS (NON-ETOPS)

Refer to Part A 8.5.1.5 for ETOPS Verification Flight requirements.

Certain maintenance work requires the aircraft to be flown to verify correct functioning of the affected system(s).

Crews will be requested to perform a verification flight via an entry in the Aircraft Maintenance Log "Verification Flight Required".

Verification flights may be carried out on a normal scheduled revenue flight or crews may be rostered to perform a short non-revenue flight, typically consisting of a takeoff, circuit and full stop landing. In either case, crew will not be required to perform any special tests or flight manoeuvres, the aim being to operate a normal flight using normal procedures.

A post flight “Verification Flight carried out satis” entry in the Aircraft Maintenance Log (AML) indicates to the maintenance staff normal functioning of the systems that necessitated the Verification Flight.

As normal practice, all defects should be entered in the AML.

8.6.1.5 TECHNICAL SUPPORT

Cathay Engineering provides technical support and engineering advice for Dragonair aircraft. Pilots should take advantage of the resources and information available to Cathay Engineering when dealing with defects. Contact details can be found in Vol 5, Hong Kong Port Page.

In order to ascertain the status of RECURRING DEFECTS, operating crew may review the Aircraft Maintenance Log as the primary source for such information. Should additional information regarding such defects be required, pilots are to contact CX Maintenance Control.

When pilots experience a technical problem or require engineering advice/support, both on the ground and in the air, time can be saved if Cathay Engineering is alerted at the earliest opportunity. Valuable time can be gained to organise engineering assistance, check on spares availability and access additional technical information that may not be available in the FCOMs or Operations Manuals.

Additionally, to avoid subsequent delays to operations, if inbound crews experience technical defects of a significant nature, i.e. one that has an operational impact and/or will affect any imminent departure, the defect must be directly reported to Cathay Engineering as soon as possible. They are responsible for the scheduling of repair and maintenance work.

8.6.1.6 AIRCRAFT DEFECTS OCCURRING AFTER DOORS CLOSED

It is within the authority of the Commander to accept a defect without consulting a ground engineer after the doors are closed, provided the defect does not require a maintenance procedure (m) and it is covered in the MEL.

If a failure occurs during the taxi phase before the start of the takeoff roll, any decision to continue the flight shall be subject to pilot judgement and good airmanship. The applicable ECAM/FCOM procedure shall be actioned and the Commander should refer to the MEL before any decision to continue the flight is taken.

8.6.1.7 UNSERVICEABILITY / AOG

Diagnose the defect as accurately as possible, preferably with the assistance of qualified engineering staff. Pass this information in detail, including the exact wording of any ECAM messages or defects shown in the post flight report to Cathay Engineering, taking care to ensure that it is neither misunderstood nor ambiguous.

ON GROUND

Initially contact IOC, then contact Cathay Engineering. This can be done using mobile phone, VHF, ACARS, or HF through Stockholm Radio.

Review the MEL for operational implications and check FCOM/PRO-SUP-45 CFDS Procedures to see if the defect has an associated Pilot approved procedure.

It may be possible for CX ENG(QA) to approve another airline's ground engineers to carry out repairs on Dragonair aircraft.

AIRBORNE

Initially contact IOC, then contact Cathay Engineering. This can be done using VHF, ACARS, or HF through Stockholm Radio.

If an airborne diversion is required, an airfield with engineering facilities, good communications and with flights to HKG should be considered.

8.6.1.8 ENGINEERING SUPPORT – OUTPORTS

For Engineering purposes, stations are classified as either "Manned" or "Unmanned".

A Manned Station is one at which appropriately licensed engineers, qualified on the applicable aircraft type, have been approved by CX ENG(QA).

An Unmanned Station does not meet the above requirements, although it may be possible for CX ENG(QA) to approve another airline's engineers to carry out and certify maintenance work. Refer to "Article 11(1) Dispatch".

Where possible, a Riding Engineer will be carried for flights to Unmanned Stations.

Engineering support status is promulgated by Company NOTAM.

8.6.1.9 CERTIFICATE OF RELEASE TO SERVICE

Following any maintenance on an aircraft it is necessary to have a Certificate of Release to Service (CRS) in force before the aircraft is allowed to fly. A CRS can only be issued by an appropriately licensed engineer. Aircraft defects are listed in the left hand column of the Maintenance Log and the maintenance action taken is detailed in the adjacent column. The far right column is then completed with an authorised signature. The note below the signature block states that this signature constitutes a Certificate of Release to Service.

If maintenance work and/or minor adjustment has been performed on a flight or engine control system, the CRS and first part of the required duplication inspection shall be issued/certified by an appropriately licensed engineer. The commander may certify the second part of the required duplicate inspection work, (Part A 8.6.1.10 refers).

If maintenance work has been performed on an aircraft at a line station where no appropriately licensed engineer is available to sign the CRS, the commander may exercise his discretion to fly to a station where the CRS can be issued. This would constitute an aircraft dispatch under Article 11(1) of the AN(HK)O.

An aircraft defect or un-serviceability allowable under the MEL that does not require any maintenance action does not fall within Article 11(1) of the AN(HK)O. Such a defect or unserviceability is to be entered in the Maintenance Log and transferred as an ADD. In such a case, the CRS shall remain unsigned until the aircraft reaches a place where an appropriately authorised licensed engineer can issue the CRS.

In summary:

- A CRS is only required if maintenance work has been carried out.
- Commanders are not authorised to sign the CRS; only appropriately licensed engineers may do so. However, the commander may enter details of action taken and sign only in the maintenance log ‘action taken’ column.

8.6.1.10 ARTICLE 11(1) DISPATCH

Article 11(1) of the AN(HK)O permits an aircraft to be dispatched for flight following maintenance action, but without a CRS.

Dispatch under the provisions of Article 11(1) can only be applied after consultation with Cathay Engineering and after informing the Duty Operations Manager (DOM).

Pilots are not permitted to carry out Maintenance Procedures as detailed in the MEL/CDL and/or Aircraft Maintenance Manual (AMM) unless specifically requested to do so by Cathay Engineering. However, the final responsibility/prerogative to undertake such tasks rests with the Commander of the aircraft.

Cathay Engineering cannot authorise dispatch under Article 11(1). They may, however, be able to advise whether an Article 11(1) dispatch is possible. **The decision to do so, after taking into consideration the airworthiness of the aircraft, rests solely with the Commander.**

The aircraft must be flown to the ‘nearest place’ at which a CRS can be signed. Notwithstanding airports in mainland China and elsewhere where appropriately licensed engineers are available, the ‘nearest place’ in the context of an Article 11(1)

dispatch may be considered to be Hong Kong. In the event of an en-route diversion or diversion from the intended destination, it is permissible to fly more than one sector to reach the place where the CRS can be signed.

NOTE: When consulting with Engineering, avoid the use of the terms 'Dispensation' or 'Concession', as both these terms have very specific engineering meanings and are not relevant to Article 11(1) dispatch.

The Aircraft Maintenance Log shall be completed as follows:

- At the departure station, the Commander will write details of the defect and any maintenance work carried out along with the words "A/C dispatched under AN(HK)O Article 11(1)."
- At the station where the CRS is to be issued, the Commander will write the following log entry in the defect column: "A/C dispatched under AN(HK)O Article 11(1). No CRS issued. Please refer Log xxxx." (Where xxxx is the maintenance log page number).
- An Engineering Delay report may be required (see Part A 8.6.1.11).

Following a dispatch under Article 11(1), the Commander must submit a written report (Article 11(1) Dispatch Form KA/03 stored in the Spare Documents Wallet) within 5 days to CX QA (Engineering) and copied to Technical Manager (Airbus). The CAR shall be annotated to advise that the aircraft was dispatched under Article 11(1).

ARTICLE 11(1) DISPATCH FORM
HONG KONG DRAGON AIRLINES LTD.

DRAGONAIR

TO:	**Manager Quality Assurance/Quality Services** **Manager/Quality System Compliance Manager** **Cathay Pacific Airways Engineering** **8/F, Central Tower, Cathay City, HK Intl Airport** **Fax: (+852) 2141 6518**
CC:	**KA Technical Manager (Airbus)** **Fax: (+852) 3193 8843**

Dispatch under AN(HK)O Article 11(1)

Flight Information

Flight No: **Date of Flight:**

A/C Reg: **Sector:**

Details

(See over for additional space)

Defect Details:

Complete TECH LOG as per Ops Manual Part A 8.6.1.9 **TECH LOG PAGE** ☐

Reason for Dispatch:

Pilot Details

Contact DOM _____ **check** ☐

Captain Name: **Licence Number:**

Captain Signature: **Date:**

Note: ***This form can be faxed to CX QA and Technical Manager (Airbus), however the original signed document must be passed to CX QA no later than five days from the date of the Article 11(1) dispatch.***

See reverse for AN(HK)O extract/additional info.

ARTICLE 11(1) DISPATCH FORM
HONG KONG DRAGON AIRLINES LTD.

Additional Information

AN(HK)O Extract

Article 11. Inspection, overhaul, repair, replacement and modification **Chapter 448C, 01/01/2009**

Paragraph (1)
Except as provided in paragraph (2) of this Article an aircraft {*registered in Hong Kong, being an aircraft in respect of which a certificate of airworthiness issued or rendered valid under this Order is in force,*} shall not fly unless there is in force a certificate (in this Order referred to as a "certificate of release to service") issued in accordance with this Article if the aircraft or any part of the aircraft or such of its equipment as is necessary for the airworthiness of the aircraft has been overhauled, repaired, replaced, modified, maintained, or has been inspected as provided in Article 8(7)(b) of this Order, as the case may be:

Provided that if a repair or replacement of a part of an aircraft or its equipment is carried out when the aircraft is at such a place that it is not reasonably practicable:

(a) for the repair or replacement to be carried out in such a manner that a certificate of release to service can be issued under this Article in respect thereof; or
(b) for such certificate to be issued while the aircraft is at that place;

it may fly to a place at which such certificate can be issued, being the nearest place:

(i) to which the aircraft can, in the reasonable opinion of the pilot in command thereof, safely fly by a route for which it is properly equipped; and
(ii) to which it is reasonable to fly having regard to any hazards to the liberty or health of any person on board;

and in such case the pilot in command shall cause written particulars of the flight, and the reasons for making it, to be given to the Chief Executive within ten days thereafter.

8.6.1.11 DUPLICATE INSPECTIONS

Commanders are permitted to carry out duplicate inspections following maintenance action at outstations, provided:

a. A second qualified engineer is not available.

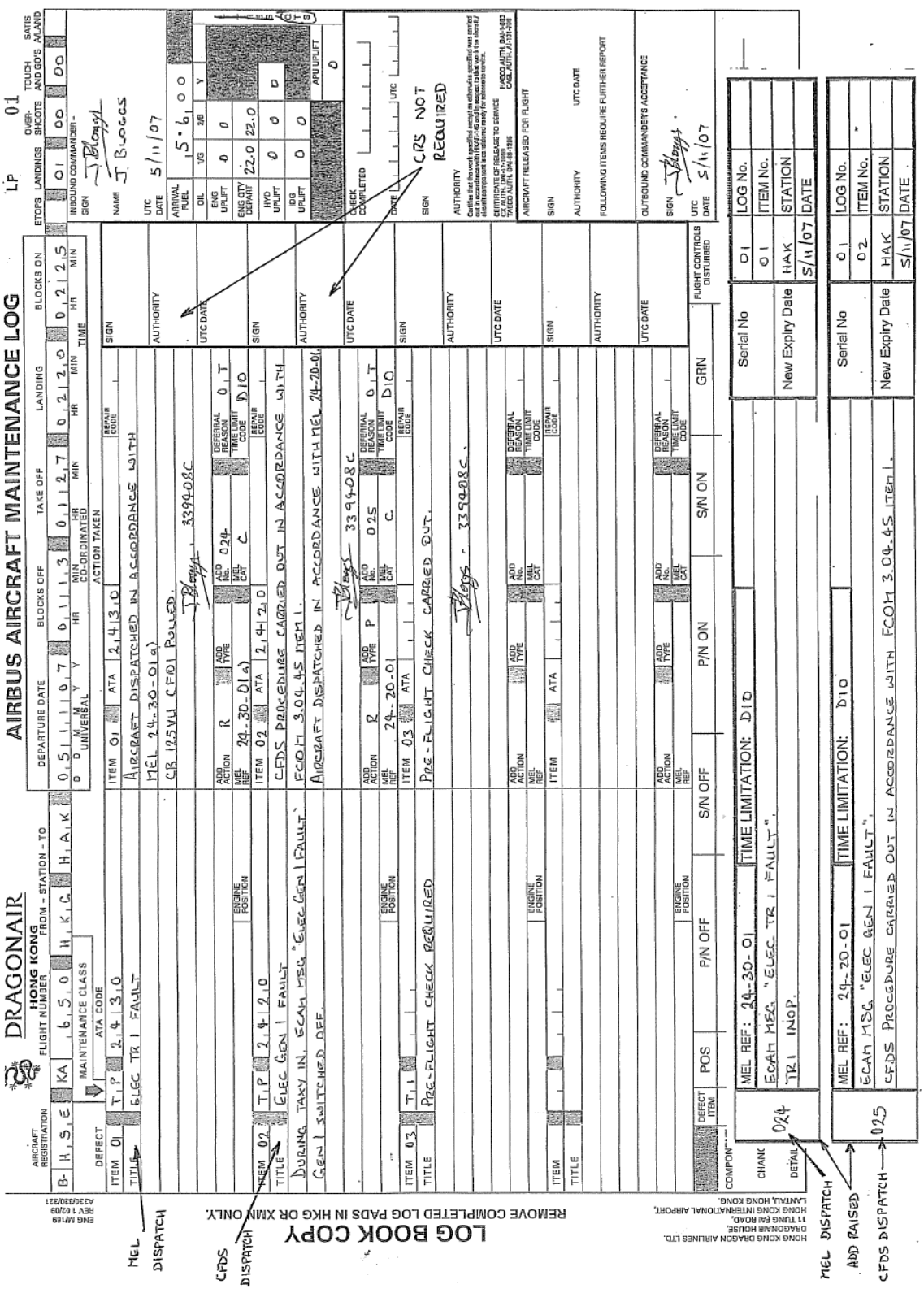
b. Only a minor adjustment is involved.

c. The crew member is qualified on the aircraft type.

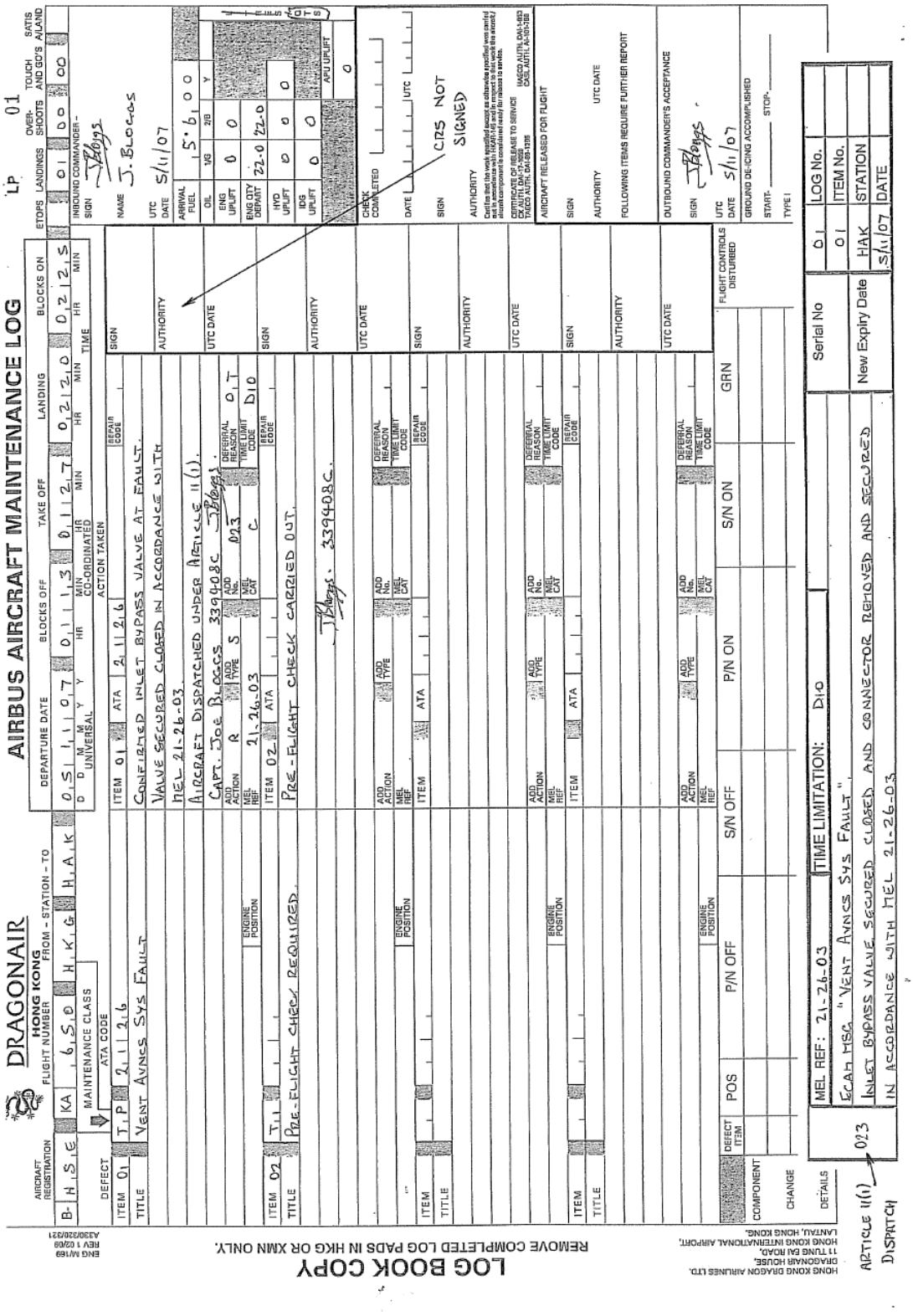
Close liaison with the Ground Engineer is necessary to ascertain the details of the specific checks required. In general, duplicate inspection requirements involve checking the affected control system for freedom of movement and correct direction of movement and the security and safety locking of the disturbed component.

A duplicate inspection may be required for dispatch under Article 11(1) of the AN(HK)O.

Example of AML entries after using CFDS Procedures for dispatch under MEL



Example of AML entry for Dispatch under Article 11(1)



8.6.1.12 ENGINEERING DELAY REPORT

At outstations without engineering support, any technical delay of ten minutes or more should be recorded on the Engineering Delay Report Form, available in the Spare Documents Wallet. The form is to be placed in the Flight Documents envelope and addressed to Cathay Engineering.

8.6.1.13 PRE FLIGHT CHECK (PFC)

Authority is automatically given for pilots to carry out PFC and refuelling procedures on completion of the ground training course. Practical aspects will be covered during line training. The PFC qualification must be renewed each time the pilot changes type.

All checks except a PFC or OCT require a CRS. The 'Check Completed' block in the Maintenance Log has a bold border denoting that the signature in the block is a CRS. Pilots are not permitted to sign a CRS, nor sign the 'Check Completed' block nor carry out 'Transit Checks'.

- A320/1 Pilots may only exercise the authority to carry out a PFC at unmanned stations.
- A330 Pilots may only exercise the authority to carry out a PFC at unmanned stations
  as a result of a diversion or unforeseen circumstances.

When a pilot carries out the PFC the following entry must be entered in the 'Defect' block, '***Pre flight check required***'. After the inspection, in the 'Action Taken' block, make the entry, '***Pre flight check carried out***' and make a signature including staff number.

It is important that the exact terminology as detailed above is used when making such entries. The abbreviation "PFC" for "Pre flight check" is acceptable.

A pilot's authority to carry out a PFC does not include replenishment of hydraulic fluid or Engine/IDG oil. However, the Commander is responsible for ensuring the oil, hydraulic and APU uplift block in the Maintenance Log is complete, after the PFC has been completed.

8.6.1.14 ON CALL TRANSIT (OCT) PROCEDURES

On Call Transit procedures are applicable at all manned stations except Hong Kong and at unmanned stations where a Riding Engineer is carried. The Commander is responsible for ensuring the OCT check has been carried out and the AML completed correctly. The procedure does not apply when an aircraft overnights.

Qualified aircraft mechanics will;

- conduct a walk around check and carry out aircraft refuelling
- review the AML for any defects, For Info entries, and PADD/SADDs
- ensure an Engineer is notified to cover any required maintenance and/or certification action

Licensed Aircraft Engineers (LAE) will;

- respond only when requested or required
- following any extended maintenance or overnight, carry out a walk around check and sign the aircraft release

When a riding engineer is carried, he performs the functions of mechanic and/or LAE as required.

Refer to the On Call Transit Procedures briefing on the Dragonet for further information.

8.6.1.15 MAINTENANCE LOG ENTRIES

The maintenance log must be completed after every flight. The SO/JFO/FO will normally prepare the AML page with the flight details and fuel on board, the Commander should then enter any defects as required.

All technical defects must be entered in the Maintenance Log. A full description of the defect should be given, including when and how the defect occurred and any other information that may be helpful in diagnosing and rectifying the problem. The ATA code should be taken from the PFR, e.g. “AIR Engine 2 HP valve fault - ATA: 36 - 11”. If doubt exists about the correct ATA code, or the defect entered in the Maintenance Log is not on the post-flight print out, do not enter any ATA code. If the defect has been entered in the AML previously it is helpful to the Line Engineer if reference is made to it.

Entries shall be legible and printed in ink. Where corrections are to be made to an AML entry, the error will be crossed out with a single line so as to ensure the error remains legible.

After each flight, ensure the following are entered in the Maintenance Log:

a.
- Warnings or cautions on the EWD,
- Flags on PFD or ND.
- Failure indications seen on SD pages.
- Observed faults (e.g. Logo Light etc)

b. Class 2 messages shown under ‘Maintenance’ on the STATUS page, when the flight is terminating at a manned station.

c. There is no requirement for flight crew to transfer any faults from the PFR to the Maintenance Log. However, pilots should peruse the PFR to ensure that all items in para a. have been entered in the Maintenance Log.

d. Cases of Hard (suspected or actual), or Overweight Landings or other exceedences.

e. Any occurrence of smoke or abnormal smell. An ASR/MOR should also be raised for such events. In addition, for the A320/1 only, a Smoke/Smell Malfunction Report form, held in the Spare Documents Wallet, shall be submitted for such events (to be placed in the flight documents envelope)

f. If the Commander raised an ADD on the previous sector, make a ‘for info’ entry.

NOTES:
1. PFRs should be placed in the Maintenance Log.
2. There is no requirement for the flight crew to annotate any faults indicated on the PFR which have resulted from flight crew action, e.g. fuel pumps off for cross feeding etc.
3. ‘Nil Further’ and ‘For Info’ entries shall be annotated "TI". All other entries shall be annotated "TP".

   Do not enter Status ‘Maintenance’ items which are notified in the ‘Notices to Crew’ in the Maintenance Log as being inoperative, e.g. QAR.

Occasionally ECAM warnings occur in flight which self-clear, or clear as a result of down powering. If the warning clears as a result of either of the above, or as a result of the ECAM actions, the aircraft may be accepted as being serviceable.

Such ECAM warnings are to be recorded in the Maintenance Log as a ‘for info’ entry. This allows the Engineering Dept to track potential problems.

NOTE: A ‘for info’ entry should only be entered inbound to HKG or at a manned station. Although such entries do not require a CRS, they do require a comment in the action taken column.

8.6.1.16 POST FLIGHT ENTRIES

AML DEFECT ENTRY REQUIRED

Contact CX ENG to inform them that engineering support will be required. The response will vary depending on whether the station is classified as "Manned" or "Unmanned".

Manned Stations :

- A Licensed Aircraft Engineer (LAE) will meet the aircraft and rectify or defer the defect, signing the CRS and aircraft released to service block.
- The LAE/mechanic completes the OIL QTY/uplift block.
- The LAE/mechanic then enters "OCT Required" in the AML Defect column, and "OCT Carried Out" in the Action Taken column. This entry does not require a signature or CRS.
- The above procedures may also be carried out by the Riding Engineer.

Unmanned Stations :

- Maintenance Control shall determine whether the aircraft may dispatch, using:
- Defect rectification and dispatch under Article 11(1).
- Defect deferral in accordance with the MEL.
- CFDS procedure.
- The crew completes the OIL QTY/uplift block.
- Crew enter "Pre-flight Check Required" in the AML Defect column, and "Pre-flight Check Carried Out" in the Action Taken column. This last entry shall include the signature and staff number of the crew member carrying out the Pre-flight Check.

AML DEFECT ENTRY NOT REQUIRED

Manned Stations :

- Crew enter "Nil Further" in the AML Defect column.
- A mechanic will meet the aircraft, check the AML for required maintenance action and, upon satisfying himself that the aircraft is fit for flight, shall enter "Nil Noted" in the Action Taken column. This entry does not require a signature or CRS.
- The mechanic completes the OIL QTY/uplift block.
- The mechanic shall then enter "OCT Required" in the AML Defect column, and "OCT Carried Out" in the Action Taken column. This entry does not require a signature or CRS.

Unmanned Stations :

- The crew completes the OIL QTY/uplift block.
- Crew enter "Pre-flight Check Required" in the AML Defect column, and "Pre-flight Check Carried Out" in the Action Taken column. This last entry shall include the signature and staff number of the crew member carrying out the Pre-flight Check.

8.6.1.17 HARD OR OVERWEIGHT LANDINGS

The trigger for the Engineering Department to initiate the necessary checks on aircraft following Hard, Suspected Hard, or Overweight Landings is by pilot report. The procedure below must be followed:

i. An entry is to be made in the Maintenance Log immediately following the event.

ii. Cathay Engineering must be advised.

iii. Advise IOC.

iv. The Commander must submit an ASR.

It is important to realise that the aircraft cannot dispatch without the approval of Cathay Engineering following such events.

8.6.1.18 ENGINEERING CHECKS

A Lesser Check (a maintenance check up to and including A Check) must be valid at the time of pushback and must not expire before reaching the next destination where the required lesser check can be performed.

The time of the check completion must be entered into the Aircraft Maintenance Log with a UTC time/date.

36 hour (A330) and 48 hour (A320/1) Lesser Checks must be carried out no earlier than 6 hours before scheduled departure or the first flight thereafter.

Engineering can only extend a Lesser Check beyond its expiry with prior approval from HK CAD.

The validity of maintenance checks is detailed below.

A330	
36HR Check	36 hours
Weekly Check	7 days
A Check	500 hours
2A Check	1,000 hours
4A check	2,000 hours
C check	15 months

A320/1	
48HR Check	48 hours
Weekly check	8 days
A check	500 hours
2A check	1,000 hours
4A check	2,000 hours
C check	15 months

If any doubt exists about when the next check is due, contact CX Maintenance Control.

8.6.1.19 SPILLAGES IN AIRCRAFT

Cargo packages showing any signs of leakage, fuming, stains or any other evidence of damage shall be reported to the Duty Ground Engineer and the Commander/PIC immediately. If the spillage is a flammable liquid, do not continue to use or operate any electrical system.

Station management is to notify the appropriate authorities depending on the nature and gravity of the incident. Engineering personnel will carry out an inspection of the aircraft in accordance with their procedures.

A SADD shall be raised whenever spillage occurs in order to facilitate the necessary clean-up work on return to Hong Kong.

Flight Crew and Ground staff shall be aware of the importance of minimising exposure to potentially hazardous materials and shall take steps to quickly assess the risk and take positive action to limit exposure, or evacuate the aircraft if deemed necessary.

The NOTOC is the source document for identifying the hazard, along with any hazard labels on the package. If the spillage cannot be positively identified, two courses of action are available:

a. Ground Engineer shall obtain a sample of the substance in a clean jar and forward the sample via CX ENG(QA) in Hong Kong to Technical Services for analysis, or

b. If this is not possible, Cargo shall be requested to obtain the chemical data sheet for the substance from the shipper and this shall be sent to CX ENG(QA).

If the spillage can be identified from the shipping documentation, a copy of the

documentation shall be faxed to CX ENG(QA) at (+852) 2321 8496.

Obtaining a sample of the spillage is important because although the spillage may be identified, it is still necessary to determine the effect on the aircraft structure. This can only be accomplished by laboratory testing.

8.6.1.20 PILOT APPROVED CFDS PROCEDURES

Dragonair pilots must have attended a CFDS training course to be qualified to carry out the approved CFDS procedures.

One pilot on the crew must be qualified in order to carry out a procedure in FCOM/PRO-SUP-45 CFDS Procedures. Subsequently the CAR must be annotated and addressed to Technical Manager (Airbus).

It should be noted that dispatch, subsequent to the use of an approved CFDS procedures, falls within the MEL allowable category.

FCOM/PRO-SUP-45 contains a generalised flow chart to show the methodology involved. Each procedure has its own specific flow chart.

8.6.1.21 MONITORING OF AUTOLAND PERFORMANCE

The monitoring of autoland performance is an Engineering function, the aim being to track aircraft fidelity to ensure a safe operation in Cat II and III conditions.

Only the results of a planned autoland are to be recorded in the Aircraft Maintenance Log Autoland check box.

Enter either a 'Y' (Yes) for a satisfactory autoland, including rollout if applicable, or enter 'N' (No) for an unsatisfactory result. In all other cases leave blank.

In the event of an Unsatisfactory Autoland, make an entry in the Aircraft Maintenance Log and categorise the reason into one of the following:

a. Airborne equipment fault,

b. Ground facilities problem,

c. Go Around due to ATC instruction,

d. Other reasons.

An auto-approach, carried out to >80 feet plus manual landing, is not a planned Autoland and in such cases the check box should be left blank.

a. A touchdown may be judged as unsatisfactory when:

b. Longitudinal touchdown earlier than a point on the runway 200ft from the threshold,

c. Longitudinal touchdown beyond the end of the touchdown zone lighting (3000ft from threshold),

d. Lateral touchdown with outboard landing gear more than 70ft from runway centerline.

8.6.2 USE OF MEL AND CDL (DDG)

8.6.2.1 USE OF THE MINIMUM EQUIPMENT LIST (MEL) AND CONFIGURATION DEVIATION LIST (CDL)

As its name implies, the Minimum Equipment List (MEL) lists all the safety-related items for which revenue flights are permitted, even if the items are inoperative at departure. The MEL specifies the dispatch conditions: the conditions to be fulfilled and the procedures to be performed, in order to permit the revenue flights to be flown with the inoperative item for a limited period of time. Furthermore, the MEL must take into account the area of operation including whether the aircraft is being dispatched from base or an outstation.

Similarly to the above, the Configuration Deviation List (CDL) lists the aircraft secondary airframes that may be missing for a particular operation and pictorially indicates areas of damage to the aircraft skin/structure that is considered acceptable for flight. Any part not included in the list must be considered as necessary. It is important to repair the airplane at the first airport where repairs or replacements may reasonably be made, since additional malfunctions may require the aircraft to be taken out of service. No more than one part or one combination of parts of one system may be missing, except otherwise specified. Parts of different systems may be simultaneously missing, unless otherwise specified in this list. Missing parts may introduce performance penalties that are cumulative.

The Minimum Equipment List (MEL) is a document established by the operator and approved by National Authorities of the operator. Operator's MEL is developed on the base of Airbus Master MEL (MMEL) and customised by the operator as a function of its own operational policies and national operational requirements.

The MEL shall never be less restrictive than the MMEL.

The Configuration Deviation List (CDL) is a document approved by the Airworthiness Authority having certified the aircraft. The CDL is included in the Aeroplane Flight Manual.

The commander shall not commence a flight unless he is satisfied that:

- The aeroplane is not operated contrary to the provisions of the Configuration Deviation List (CDL);
- The instruments and equipment are in operable condition except as provided in the MEL.

The commander shall decide whether or not to accept an aeroplane with unserviceabilities allowed by the CDL or MEL.

In the MEL, any item is deemed “inoperative”, when it does not satisfactorily fulfil its intended function, regardless of the reason.

An item is deemed to be inoperative when:

- It does not work at all, or
- It does not ensure all functions for which it was designed, or
- It does not consistently work within its designed operating limits or tolerances, or
- It is requested to be considered inoperative by the dispatch conditions, or
- It is not available due to a primary failure.

Whilst operating within the limits of the MEL / CDL, the aircraft is deemed to be airworthy and capable of operating within the specified environment.

The MEL is not intended to provide for continued operation of an aircraft for an unlimited period of time. Repairs should be made as soon as possible within the time limit imposed by Rectification Intervals.

Dispatch of the aircraft is not allowed after expiry of the Rectification Interval specified in the MEL unless the Rectification Interval is extended in accordance with the following:

- A one time extension of the applicable Rectification Interval B, C, or D, may be permitted for the same duration as that specified in the MEL provided:
  - A description of specific duties and responsibilities for controlling extensions is established by the operator and accepted by the Authority, and
  - The Authority is notified within a timescale acceptable to the Authority of any extension authorised.

Although the concept of Rectification Interval does not exist for the CDL, all CDL items are not allowed to be left unrectified for an unlimited period of time as stated in the Flight Manual. However, a specific time limit is required in the dispatch condition itself for some items. Decision for repair is under the operator responsibility.

It is company policy that every effort be made to maintain 100 % serviceability with rectification being initiated at the first practical opportunity.

An aircraft must not be dispatched with multiple MEL / CDL items inoperative without the Commander having first determined that any interface or interrelationship between inoperative systems or components will not result in a degradation in the level of safety and/or undue increase in crew workload.

The exposure to additional failures during continued operation with inoperative systems or components must also be considered in determining that an acceptable level of safety is maintained.

In case of defect, engineering personnel will certify in the Technical Log adjacent to the appropriate defect the MEL / CDL subject title, system and item number together with any operational limitations.

At the completion of any engineering tasks associated with the particular MEL item, engineering personnel will placard the inoperative instrument, switch, light, etc.

When applicable, operational flight plan, take off and landing performance and fuel requirement penalties must be taken into account due to inoperative equipment or component.

When a MEL / CDL item is rectified, engineering personnel should make an entry in the Technical Log identifying the item and details of the rectification, including a statement that the MEL / CDL item has been removed. Appropriate MEL placards must then be removed from the cockpit.

For the A330 fleet, the MEL and CDL are incorporated into the Dispatch Deviation Guide (DDG).

8.6.3 ENGINEERING TERMINOLOGY/DOCUMENTS

8.6.3.1 GENERAL

The following paragraphs explain some commonly used Engineering Terminology and documents that flight crews may see in the Maintenance Log or hear of during discussions with engineering personnel.

a. Engineering Organisation and Maintenance Procedures Manual (EOMP)

i. The EOMP describes in detail, procedures used in the Engineering Department to comply with the CATHAY PACIFIC AIRWAYS Engineering Exposition, HKAR 145, BCARs, CAD Airworthiness Notices etc.

b. Maintenance Concessions

i. A concession is an authority for an appropriately authorised engineer to accept a limited number of aircraft systems or components or parts thereof for use on an aircraft, which do not wholly comply with the relevant requirements of the approved technical publications but nevertheless do meet an acceptable level of airworthiness in a particular case. They are issued by Maintenance Control.

ii. Maintenance Concessions are Engineering's normal method of exceptional authority for release to flight which Flight Crew will see in the Maintenance Log. They are also used to support Dispensations.

iii. Maintenance Concessions are issued in telex format for the Line Engineer to release an aircraft under an SADD. Ref EOMP 7A-18-2 and fig 1 illustration therein.

c. Base Deferred Defects (BDD)

i. Any defect which does not change the operational drills or procedure for flight, ie not visible to the Flight Crew or Ground Engineer, and for which aircraft safety is not affected and is not airworthiness related, may be raised as a BDD until materials and opportunity can be made available for rectification.

ii. BDDs are maintained on a Mainframe Computer System and are controlled by Engineering Planning.

iii. Occasionally Flight Crew may see reference to a BDD quoted in the Maintenance Log. Usually this would be after an outport A/2A check inspection finding ADD or an ordinary ADD which meets criterion i above being transferred in HKG to a BDD which is the correct control medium.

d. Design Deviation Order (DDO)

i. The objective of the DDO is to provide a control procedure for the authorisation of work on an aircraft or its components, which is urgent in nature and deviates from existing approved drawings, limits, specifications, procedures etc for the aircraft type. They are issued by the Technical Services Design Organisation.

ii. DDOs are Engineering's normal method of short/long term authorisation of work per item i or short term specialist authorisation beyond the definition of a Maintenance Concession.

iii. DDOs may occasionally be seen in the Maintenance Log. If a DDO results in an SADD entry, then a copy of the DDO should be within the Miscellaneous Section of the Maintenance Log. Refer EOMP 4-4-1, 7A-18-2 and fig 2 illustration therein.

iv. DDOs normally are tracked as BDD's and are not visible to the Flight Crew.

e. Maintenance ADD (MADD)

i. The MADD System is an electronic work request system. The MADD is not a deferred defect and has no MLog Control Card as for other ADD types. It will be used when Maintenance Control (HKG) require work to be carried out to progress a repetitive defect, perform a fleet inspection or investigate an MOR incident.

ii. The work requests will give guidance to line engineers at all line stations and in HKG and should reduce duplication of effort when repetitive defect investigations are carried out.

iii. MADDs may be outstanding in the EMPACS computer system and cannot be seen by viewing the aircraft MLog. They are however visible in the MLog when actioned, as it is through the MLog Entry, and MADD Clearance that EMPACS visibility and the closed loop control occurs.

iv. It is unacceptable for any line engineer to clear a PIREP with no action taken against on open MADD. Maintenance action must be performed for the PIREP report. v. Refer EOMP 7A-16-1.

f. Non Routine Card (NRC)

i. Used to record and certify work carried out which can be routine, non routine or of special nature, and could include any duplicate inspections required.

ii. NRCs are raised for definitive tasks. Where full itemised details of the task or sub tasks is required, a Continuation Work Sheet (CWS) may be used.

iii. They are used in HKG and XMN and can cover aircraft check inspection findings and rectifications which may not appear in the Maintenance Log.

iv. Refer HAECO GTI-P-065-91.

g. Continuation Work Sheet (CWS)

i. Used to record and certify work with full itemised details of work carried out, which can be routine, non routine or of special nature, and could include any duplicate inspections required.

ii. Used in HKG and XMN only.

iii. Refer HAECO GTI-P-022-89

8.7 NON-ROUTINE FLIGHTS

8.7.1 GENERAL

8.7.1.1 DEFINITIONS

The following flights are considered as non revenue flights:

- Training flights,
- Test flights,
- Delivery flights,
- Ferry flights,
- Demonstration flights,
- Positioning flights with or without passengers.

8.7.1.2 TRAINING FLIGHTS

Training flights are conducted under the responsibility of the Training Manager with the purpose of:

- Commander / pilot qualification / requalification
- Training the abilities of pilots under normal and abnormal conditions
- In flight proficiency check.

However, the final decision to carry out the actual training flight and the responsibility for adherence to Company instructions described in the Operation Manual in general and the Part D in particular, remains with the designated Commander.

8.7.1.3 TEST FLIGHTS

A test flight must be performed after special maintenance/or repair work on an aircraft and on special request of the Authority. Test flights shall be performed according to programs issued by the technical department in agreement with the flight operations department.

Those flights shall be performed by the minimum flight crew according to the Operations Manual. The crew should be assigned by the Flight Operations Manager.

If it is required by the kind of test flight, there might be, in addition to the minimum crew, engineers, mechanics or inspectors on board who are directly involved in the preceding work/inspection of the aircraft. They must be recorded in the journey log as additional crew members.

The technical department shall give the flight crew a briefing on:

- The reason for the test flight.
- The test program.
- How the preceding work may influence the airworthiness of the aircraft.

8.7.1.4 DELIVERY FLIGHTS

Delivery flights are flights where an aircraft is flown from the seller's facility to the airline or vice versa.

Provided all normal requirements are fulfilled, non-revenue passengers may be carried if this is not excluded on the certificate of airworthiness and certificate of registration. Full insurance coverage must be assured. For some delivery flights, the Authority might only issue a "ferry permit" in lieu of the certificate of airworthiness and the certificate of registration. This ferry permit may exclude the carriage of persons other

than flight crew and engineers.

Flights with passengers aboard require full and normal crew complement.

8.7.1.5 FERRY FLIGHTS

Ferry flights are flights to position aircraft for maintenance. They may be conducted with minimum crew and reduced airworthiness as permitted by Operations Manual or the Authority.

The Duty Operations Manager shall give his consent to the Commander prior to commencing ferry flight after the approval of the authority.

8.7.1.6 DEMONSTRATION FLIGHTS

A demonstration flight may be for a sale / advertising purpose or to demonstrate flight characteristics. It may be also a flight with journalists and customerst.

All flights shall follow the standard procedures described in the Operation Manual.

In any case, all flights with passengers aboard require full and normal crew complement.

8.7.1.7 POSITIONING FLIGHTS

A positioning flight is a flight to position an aircraft to an aerodrome for commercial operations.

Positioning flights must be performed with at least the minimum flight crew and must follow the standard procedures described on the Operations Manual.

Only crewmembers of the company may be transported on the way to or from flight duty (Dead Head crews).

In this case, the Commander nominates one crewmember to be responsible for cabin safety checks. In accordance with the Commander the demonstration of safety belts, oxygen masks, life vests and emergency evacuation may be avoided, if all person on board are familiar with the demonstration of their use.

8.8 OXYGEN REQUIREMENTS

8.8.1 GENERAL

8.8.1.1 OXYGEN ANALYSIS

AN(HK)O Schedule 5, Scale L2 details requirements for crew and passenger oxygen. Sufficient oxygen must be available, prior to departure and in case of an actual Depressurisation, as follows:

a. Plannned or actual level **at or below FL100** - No oxygen required.

b. Planned or actual level above FL100 but not above FL250.

i. Passenger oxygen

All passengers for the duration that the cabin altitude exceeds 12,000ft. - Minimum 10 minutes.

10% of passengers for the duration that the cabin exceeds 10,000ft. Minimum 30 minutes.

ii. Crew oxygen

Members of Flight Deck crew - for the duration that the cabin exceeds 10,000ft. - Minimum 30 minutes.

iii. Cabin Staff - For the duration that the cabin exceeds 10, 000ft. Minimum 30 minutes.

c. Planned or actual level **above FL250**.

i. Passenger oxygen

All passengers, for the duration that the cabin altitude exceeds 15,000ft. - Minimum 10 minutes.

30% of the passengers, for the duration that the cabin altitude exceeds 12,000ft but does not exceed 15,000ft.

10% of the passengers, for the duration that the cabin altitude exceeds 10,000ft but does not exceed 12,000ft.

First Aid oxygen supply must be available for independent and simultaneous use of 2% of passengers, or two passengers, whichever is greater, for the entire period that the cabin altitude exceeds 8,000ft. following a decompression.

ii. Crew oxygen

Members of Flight Deck Crew - for the duration that the cabin exceeds 10,000ft - Minimum two hours.

Cabin Staff - for the duration that the cabin altitude exceeds 10,000ft. In addition an individual portable supply of oxygen for 15 minutes.

NOTES: 1. Flight Deck crew oxygen requirement can be calculated using the table in FCOM/LIM-35 Cockpit fixed Oxygen System.

Despatch is allowed when Crew Oxygen is below 1,500psi provided a check is made before each flight to ensure that the minimum Crew Oxygen pressure is sufficient for the intended flight. The threshold for Engineering to take maintenance action (including raising of a SADD) is 1,100psi. There is no requirement to log oxygen pressure indications above this limit.

2. Cabin staff oxygen requirements are met using cabin fixed oxygen system and 15 minutes supply from PBE. The remainder is met using portable oxygen bottles.

3. Passenger oxygen requirements are met using cabin fixed oxygen system, and portable oxygen bottles.
4. Guidance on oxygen requirements for any flight, where on any part of the route the safety altitude is above 10,000 feet, will be given in the associated route brief.

8.9 PASSENGER AND CARGO HANDLING

8.9.1 PASSENGER HANDLING

8.9.1.1 PASSENGER BOARDING

The loading of passengers and baggage will proceed in accordance with the Precision Timing Schedule. In HKG the ramp staff will complete the passenger count, the FA1 will not ask for permission to board passengers or to close the aircraft doors. At outstations the agent will check with the Captain and the FA1 that the cabin is ready for boarding.

GUIDANCE FOR CREW ON PASSENGER HANDLING IN TECHNICAL DELAY OR DIVERSION SITUATIONS

a. At Dragonair Ports the Ramp Coordinator has overall responsibility for the local handling of delays. He will be the focal point for communications with IOC, the Commander, the FA1 and the Ground Engineer. It is vital that Commanders communicate all relevant information to the Ramp Coordinator in a timely manner.

The Ramp Coordinator will not board the aircraft without prior approval of the Commander. Normally passenger boarding will be delayed if engineering expect rectification to take more than 30 minutes, an engine ground run is to be carried out or the Flight Deck crew have been denied access to the cockpit for pre-flight preparation.

If a lengthy delay is anticipated the Ramp Coordinator will consult jointly with the Commander, FA1 and, where appropriate the Ground Engineer to agree an appropriate strategy and to ensure that coordinated communication with the passengers is achieved.

b. DELAYS OUT OF OR DIVERSIONS INTO PORTS WHERE DRAGONAIR HAVE REPRESENTATION

At ports to which Dragonair does not normally operate but employs a handling agent, the traffic staff or handling agent will be responsible for passenger welfare. Refreshments, meals or accommodation will be provided in accordance with the published scale in the Customer Services Manual. Close liaison will be maintained between the agent or traffic staff and the Commander on departure times and the disembarking or embarking of passengers. The agent or traffic staff will be responsible for all payments incurred in these situations.

c. DELAYS OUT OF OR DIVERSIONS INTO OUTPORTS AT WHICH DRAGONAIR HAVE NO REPRESENTATION

Where Dragonair have neither a handling agent nor resident traffic staff, the Commander is responsible for passenger welfare or liaison. Refreshments, meals or accommodation will be provided in accordance with the scale published. If credit facilities do not exist, the Commander is to contact IOC to make suitable arrangements. The Commander will provide Operations with the contact TELEPHONE, SITA OR TELEX numbers.

In such situations it is the Commander's responsibility to ensure that the public image of the Company is enhanced as much as is possible under the circumstances. Expedient decision-making combined with clear and concise communications engenders a feeling of confidence in the passengers.

He should make decisions on disembarkation, provision of meals or accommodation based upon the guidelines provided as well as his assessment of the most effective way of minimising damage to the Company image. When communicating to passengers, any mention of compensation should be avoided.

The Authorised Scale For Provision Of Refreshments Or Meals

The authorised scale for provision of refreshments, meals or accommodation in addition to the normally provided Inflight catering are:

a. Delay period up to 20 mins ---- Snacks / Cookies and Drinks

b. Delay period up to 60 mins ---- Sandwiches

c. Delay period up to 105 mins --- Hot Meal

The restaurant bar serving the refreshments should be contacted immediately it is known that refreshments will be served and arrangements made as to the type of refreshments to be provided. There is obviously no point informing passengers that sandwiches will be available if the restaurant is not capable of producing this service.

The following procedures are to be applied when deciding if a full meal service is to be served on the ground:

If a main meal has been served prior to arrival, a main meal should not be provided on the ground unless the delay time extends into the next meal period.

Meal periods in local time:

a. 0500 - 0900 Breakfast

b. 1100 - 1400 Lunch

c. 1800 - 2100 Dinner

If a main meal has been provided for use on the next sector of the flight, consideration should be given as to whether passengers should be served this meal on board during the delay.

Ensure that the restaurant has the resources to provide the meal in the time available. At some airports catering may not be available and use may have to be made of the Inflight catering facilities or off airport restaurants. The Commander must be consulted before passengers are allowed to leave the airport environs.

In the event that the meal service will extend into the time of the rescheduled departure, a main meal should be provided on board the aircraft to be served to the passengers after departure and a substantial refreshment offered to passengers on the ground.

Extended Aircrew Delays

a. Interline Misconnection:

   i. In case of missed connections, the delivering carrier causing the missed connection is responsible for the passenger's expenses incurred at the transfer point. (Hotel accommodation, meal & transportation)

b. In the case of Flight irregularities such as:

   i. Delayed flight.

   ii. Cancellation.

   iii. Diversion.

c. Any passenger who has a confirmed booking or has been accepted on the flight will be offered the following at KA expense:

   i. Refreshment/Meals in accordance with the scale above.

   ii. Hotel accommodation, if a delay exceeds 6 hours or a night stop is involved. Local passengers with the possibility of returning to their home are excluded from this facility.

   iii. Delay message facilities. (SITA or Telex as available.)

iv. One long distance call for a maximum of 3 minutes.

v. Reimbursment of reasonable transportation costs from airport to home and vice versa for passenger who do not require hotel accommodation.

vi. Airport tax where applicable.

d. However, KA has no obligation to cover expenses if a flight is interrupted due to uncontrollable circumstances such as:

i. Weather conditions.

ii. Political reasons/strikes.

iii. Airport closure.

In the event of a diversion, where it is unlikely that the aircraft will be able to continue to the original destination passengers may wish to leave the flight at the diversion airport. This is permissable provided the CIQ authorities agree. The passengers' bags must be off loaded. The Commander must bear in mind that in PRC the authorities may not permit the flight to depart for the original destination if some of the passengers have disembarked and the flight may then be committed to return to HKG.

Interline passengers who are delayed overnight or diverted to Hong Kong may have Hong Kong entry visa problems. CX AHQ are responsible for dealing with such cases.

The Commander should make a PA advising the passengers that they will be met by Dragonair staff who will assist them in any way possible.

Cabin Staff Considerations

It is preferable when faced with a lengthy delay to disembark the passengers into the transit lounge. This may not always be easily arranged in PRC but in the interests of the cabin staff should be done whenever possible.

Security of Duty Free Bars and passenger Duty Free Purchases may pose considerable problems in the event of diversion to some outports. Bars will be sealed by cabin staff in accordance with their instructions, and whenever possible Duty Free Bars should be deposited in a bonded store if the aircraft is to be left unattended by KA staff. Resident Inflight caterers may be able to offer assistance in this respect. If no bonded store facilities exist, security guarding of the aircraft will have to be arranged, and if feasible, consideration should be given to sealing the aircraft doors.

Individual Passenger Weights

It is company policy that passengers will not be weighed individually and that notional weights will be used.

It is the responsibility of the Commander to inform Flight Despatch at the earliest possible time during the planning sequence, if there is a potential limitation to the payload and to advise the likely maximum Zero Fuel Weight.

At outstations, the maximum Zero Fuel Weight shall be passed to the handling agent using the CFD Despatch Copy.

It is the responsibility of the outstation staff to decide, in the event of limited payload, which passengers and baggage/cargo is accepted.

8.9.1.2 SMOKING ON BOARD

Smoking is not permitted on any Dragonair flights.

Cabin crew are responsible for monitoring smoking regulations at all times when the aircraft is on the ground or in flight. Should a passenger be found smoking in the toilets, the FA must establish where the passenger has disposed of the cigarette and that it has been extinguished. FA1 will report to the Captain the cause of a smoke warning, passenger's name and seat number.

A passenger found smoking on board is to be considered "unruly".

Air Crew are not permitted to smoke on board aircraft at anytime.

8.9.1.3 FUELLING WITH PASSENGERS ON BOARD, EMBARKING OR DISEMBARKING

Refer to Part A 8.2.2.3 Refuelling With Passengers On Board

8.9.1.4 ELECTRONIC DEVICES

Radio frequency transmitters such as CB radios and radio-controlled toys and devices can interfere with the aircrafts navigation and communication systems. As they effect the safety of the aircraft and all onboard, their use is banned on Dragonair aircraft, and they must remain completely switched off from the time the doors close prior to take-off until the aircraft has landed and the door is opened. Mobile phones, however, have to be switched off once safety demonstration is commenced before take-off and may be "turned on" after the aircraft has vacated the runway after landing and the Cabin Crew have made a Public Address (P/A) announcements informing passengers that it is safe to used their mobile phones.

Laptop computers, hand-held computer games, FM receivers, mini-disc players, CD players, CD-ROMs, tape players, Mobile phone/PDA with "Flight Mode" and other electronic equipment cannot be used until 15 minutes after take-off or after the fasten seat belt sign has been turned on prior to landing.

Passengers using mobile phone/PDA must prove to the cabin crew's satisfaction that the phone function is switched off i.e. "Flight Mode" selected.

An announcement must be made prior take off and landing to alert passengers of the above.

Cabin Crew seeing any passenger using electronic equipment contrary to these rules should request the passenger to refrain from using the equipment. If a passenger ignores this request they are to be considered "unruly".

Use of mobile phones and personal electronic devices may be permitted when the aircraft is stationary during prolonged departure delays or in the event of a prolonged arrival delay for parking/gate position (even though the doors are closed and the engines are running).

8.9.1.5 MEDICAL KITS

FIRST-AID KITS

Refer "Emergency Procedures Manual – Emergency Equipment"

EMERGENCY MEDICAL KIT

Refer "Emergency Procedures Manual – Emergency Equipment".

8.9.1.6 MEDLINK

Refer "Emergency Procedures Manual – 7.1.19 Para 5 MEDLINK".

8.10 INDEX

INTENTIONALLY BLANK

TABLE OF CONTENT

INTENTIONALLY BLANK

9 DANGEROUS GOODS & WEAPONS

9.1 DANGEROUS GOODS

AUTHORISATION TO CARRY DANGEROUS GOODS

Dragonair is authorised by the Hong Kong Civil Aviation Department to carry dangerous goods in our aircraft. A NOTOC will be presented to the Commander when dangerous goods are carried from approved ports, as detailed in the Company NOTAMs. The following conditions apply:

a. All dangerous goods are to be carried in accordance with the provisions of the current edition of the International Civil Aviation Organisation Technical Instructions for the Safe Transport of Dangerous Goods by Air;

b. The activities of Dragonair and appointed handling agents with relation to the handling of dangerous goods are subject to inspections by persons authorised by the Director of Civil Aviation in this regard;

c. Copies of the Dangerous Goods Transport Documents, Acceptance Check List, NOTOC, and the associated Air Waybill for each consignment of dangerous goods must be preserved for a period of not less than six months from the date of shipment;

d. Dragonair shall not accept a package or overpack containing dangerous goods until it has been inspected and determined that it is not leaking or damaged in a way that the contents may escape; and

e. Any accident or incident, as defined by the Technical Instructions, occuring in the territory of Hong Kong must be reported to the Civil Aviation Department.

f. For A321 aircraft fitted with an Additional Centre Tank (ACT), Dangerous Goods which by their nature are corrosive, explosive or aggressive to the ACT structure, including combustible liquids and gases, are not allowed in compartments 3, 4 or 5.

9.1.1 DANGEROUS GOODS – CLASSES AND DIVISIONS

Dangerous Goods are categorised into various Classes and Divisions according to the hazard they present. Certain Dangerous Goods are considered too dangerous for transport by air and are “Forbidden” to be carried by aircraft, whilst others may be carried by Cargo Aircraft Only (CAO). Dangerous Goods which do not fall into either preceding category are deemed acceptable for carriage on passenger and cargo aircraft.

Dangerous Goods are divided into 9 Classes, reflecting the type of risk involved. However, the order in which they appear does not imply a relative degree of danger. The following is a brief description of each classification with guidance for action to be taken in case of damage and/ or leakage of Dangerous Goods.

9.1.1.1 CLASS 1 – EXPLOSIVES

Explosives are divided into United Nations Classification Divisions of 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6, according to their various characteristics. Most explosives, except for division 1.4 (e.g. cartridges for weapons) are normally forbidden for transport by air.

9.1.1.2 CLASS 2 – GASES

FLAMMABLE GAS

The gas when mixed with air in any possible proportion, shall burn if ignited by a flame or spark. Any leakage shall cause a fire risk.

NON-FLAMMABLE, NON-TOXIC GAS

Gases within this Classification which are permitted for transport by air are non-toxic. A heavy concentration of the gas in a confined space could cause suffocation due to the absence of oxygen. These gases are normally carried under pressure and there is an associated risk of explosion in the event the cylinders are subjected to undue heat or fire.

TOXIC GAS

These Gases are known to be extremely toxic or corrosive to humans, so as to pose a hazard to health. Generally, toxic gases are forbidden for transport by air.

9.1.1.3 CLASS 3 – FLAMMABLE LIQUIDS

Liquids, or a mixture of liquids containing solids in solution or in suspension which produce a flammable vapour at temperatures of not more than 60.5°C.

These liquids shall never be exposed to fire in open air.

If the liquid should escape, prevent its spread by soaking it up. If a fire should occur, reduce the ventilation as much as possible so that the fire shall self extinguish due to a lack of oxygen. A chemical extinguisher should be used to tackle a flammable liquid fire.

9.1.1.4 CLASS 4 – FLAMMABLE SOLIDS

FLAMMABLE SOLIDS

Materials that are readily burnable or may cause fire through friction.

SPONTANEOUSLY COMBUSTIBLE SUBSTANCES

Substances liable to spontaneous combustion, these include substances that may ignite within 5 MIN after coming in contact with air.

DANGEROUS WHEN WET

Substances, which, in contact with water emit flammable gases and are liable to become spontaneously flammable.

9.1.1.5 OXIDIZING SUBSTANCES AND ORGANIC PEROXIDES

OXIDIZERS

These are articles that may cause combustion of other material by yielding oxygen. Oxidizers tend to be unstable and the generation of heat by friction and impact shall be avoided.

ORGANIC PEROXIDES

These are substances that are thermally unstable and may undergo self-accelerating decomposition. They have one or more of the following properties; burn rapidly, react dangerously with other substances, cause damage to eyes, liable to explosive decomposition and sensitive to impact or friction.

9.1.1.6 CLASS 6 – TOXIC AND INFECTIOUS SUBSTANCES

TOXIC SUBSTANCES

These substances are liable to cause death, injury, or to harm human health if swallowed, inhaled or contact the skin.

Handle only when wearing protective clothing.

INFECTIOUS SUBSTANCES

These substances known to contain micro-organisms (bacteria, viruses, parasites, etc) or their toxins that are known, or suspected, to cause diseases in humans or animals.

Do not approach or handle damaged or leaking packages.

9.1.1.7 CLASS 7 – RADIOACTIVE MATERIALS

Materials or substances, which spontaneously and continuously emit radiation that may prove harmful to health. Radiation may affect other materials, particularly undeveloped photographic film and X-ray film. Appropriate instruments should detect and measure levels of radiation which are far below those which may pose a risk to health.

Radioactive materials are divided into three Categories (Category I, II, III) based on the radiation level of the package or container and is indicated by a single digit number called the Transport Index (TI). The TI provides control over radioactive exposure to personnel.

Prolonged exposure to all radioactive materials may have harmful effects.

The strength of radiation decreases in proportion to the distance from the source. Therefore, unprotected personnel shall keep a minimum distance of 25 M (75 FT) from damaged shipments containing radioactive material, in order to avoid contamination or excessive exposure to radiation.

INSTRUCTIONS FOR THE CARRIAGE OF RADIOACTIVE SUBSTANCES

Carriage of Radioactive Materials in accordance with the Handling section of the IATA Dangerous Goods Regulations is mandatory under Hong Kong law.

The radiation level is expressed in Transportation Indexes (TI) for simplicity of handling and loading. The Transportation Index (TI) is the measurable radiation level outside the package.

CATEGORIES OF RADIOACTIVE MATERIALS

There are two categories of radioactive material that Flight Crew may see annotated on a NOTOC:

Category I (White Label – RRW)	No restrictions apply to the loading of this category of radioactive material. The radiation level exhibited by this category is low enough to be negligible. Transportation Index is not shown.
Category II and III (Yellow Label – RRY)	Radioactive material in this category has a measurable radiation level outside the package. Packages in this category presented for loading without the number of Transportation Indexes entered on the Yellow label attached to the package shall not be loaded. The sum of Transportation Indexes of any package bearing Category II and III radioactive material shall be recorded on the Loadsheet in the Supplementary Information – SI section. Use of the code RRY, the loaded compartment and number of Transportation Indexes, e.g. RRY/2/5, is required. The total sum of Transport Indexes must not exceed 50TI.

In order to maintain the principle of keeping human exposure to radiation as low as may be reasonably achieved, Category II and III yellow packages shall not be carried in Passenger compartments.

All relevant transport and storage personnel must receive special training concerning the hazards involved and the precautions to be observed when handling packages containing radioactive materials.

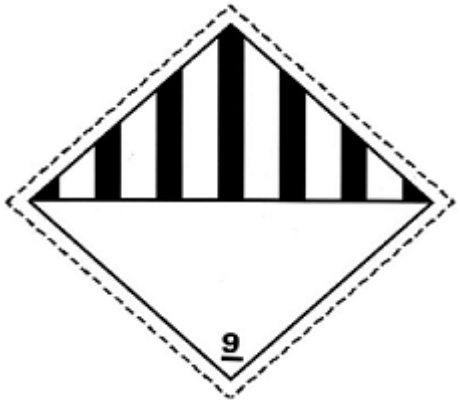
9.1.1.8 CLASS 8 – CORROSIVES

Substances that may cause severe damage by chemical reaction when in contact with living tissue (e.g. skin) or may materially damage other freight or the means of transport (e.g. pallet or the aircraft).

Fumes produced by corrosive material could be dangerous if inhaled and may cause eye irritation. A risk of fire exists should a corrosive liquid contact organic material (e.g. sawdust, wood-shavings, rags, etc.) or other chemicals, as considerable heat may be generated as the result of the chemical reaction and possibly leading to spontaneous combustion.

Handle only whilst wearing protective clothing.

9.1.1.9 CLASS 9 – MISCELLANEOUS DANGEROUS GOODS



Dangerous goods not covered by other Classes (e.g. magnetized material as DG, dry ice, etc).

9.1.1.10 CARRIAGE OF MAGNETISED MATERIAL (MAG)

Magnetized materials shall not be loaded in such a position that they shall have a significant effect on the Direct-reading Magnetic Compasses. Consequently, it is preferred that any known or declared magnetized material shall not be loaded in the forward nose or aft tail positions. Permitted loading positions are shown in the following table:

Aircraft Type	H1	H2	H3	H4	H5
A320	N				
A321					
A330	N	Y	Y	N	N

Where Y = allowed to load & N = forbidden

9.1.1.11 LIMITATIONS ON CARRIAGE OF DRY ICE (CO2)

Dry Ice releases CO2 which is not poisonous but may present a problem of oxygen dilution in confined spaces where ventilation rates are low. The table below indicates the maximum amount of Dry Ice that may be safely loaded on Dragonair aircraft.

DRY ICE LIMITATION TABLE

The table assumes that a certain amount of Dry Ice is loaded in the Passenger Cabin. There is a 50 KG allowance to be consumed by in-flight services and a 2.5 KG allowance per passenger. This is in addition to the Cargo Hold limits indicated in the table below.

Compartment Maximums for A320 / A321 / A330

	A320	A321	A330
Forward Compartment	200kg	200kg	200kg
Aft Compartment	200kg	200kg	200kg
Maximum per aircraft	400kg	400kg	400kg

Note: The maximum quantity of Hold 5 is included in the AFT compartment.

DRY ICE LOADED WITH LIVE ANIMALS

ICE shall be segregated by one ULD position (no fit or occupied) from (AVI/AVC/AVP) or HEG

(Figure 1 and 2).

Figure 1

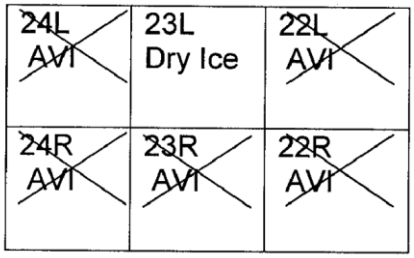
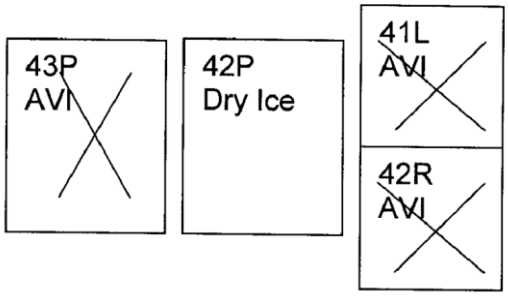


Figure 2



In the context of the above limitation, Cargo Hold 5 is considered as a single loading position.

9.1.1.12 CARRIAGE OF LITHIUM BATTERIES

The term "Lithium Battery" refers to a family of batteries with different chemistries, comprising many types of cathodes and electrodes. For the purposes of the Dangerous Goods Regulations they are separated into:

LITHIUM METAL CELLS/BATTERIES

Generally non-rechargeable batteries that have Lithium Metal or Lithium Compounds as an anode. Frequently found in watches, calculators, cameras, etc. Carriage of Lithium Metal batteries on their own is currently embargoed for KA/CX passenger aircraft. However, they may be carried “packed with equipment” or “contained in equipment”.

LITHIUM ION CELLS/BATTERIES

Sometimes abbreviated as "Li-ion", and also including Lithium Polymer batteries, they are generally rechargeable batteries used to power consumer electronics such as mobile telephones, laptop computers, etc. Lithium Ion batteries may be carried on their own, “packed with equipment” or “contained in equipment”.

Batteries can be connected in series or in parallel, affecting the voltage (V) or ampere-hours (Ah) respectively. The voltage and ampere-hours rating are used to determine whether a particular battery needs to be classified as Dangerous Goods.

Lithium Batteries with a high power output or high lithium content are classified in Class 9 - Miscellaneous Dangerous Goods. Lithium Batteries with a low power output or low lithium content may instead be carried as Excepted Quantities.

In the event of an incident, regardless of whether the batteries are carried as Dangerous Goods or as Excepted Quantities, the reporting procedures for a Dangerous Goods incident shall be followed.

LITHIUM BATTERIES - NOTOC REQUIREMENTS

ELI Lithium Ion Cells/Batteries transported as Excepted Quantities

- Carried on their own ..... NOTOC required - Other Special Load
- Carried "packed with equipment" ..... NOTOC required - Other Special Load
- Carried "contained in equipment" ..... NOTOC required - Other Special Load

ELM Lithium Metal Cells/Batteries transported as Excepted Quantities

- Carried on their own ..... **NOT PERMITTED**
- Carried "packed with equipment" ..... NOTOC required - Other Special Load
- Carried "contained in equipment" ..... NOTOC required - Other Special Load

RLI Lithium Ion Cells/Batteries transported as Class 9 Dangerous Goods

- Carried on their own ..... NOTOC required - Class 9 DG
- Carried "packed with equipment" ..... NOTOC required - Class 9 DG
- Carried "contained in equipment" ..... NOTOC required - Class 9 DG

RLM Lithium Metal Cells/Batteries transported as Class 9 Dangerous Goods

- Carried on their own ..... **NOT PERMITTED**
- Carried "packed with equipment" ..... NOTOC required - Class 9 DG
- Carried "contained in equipment" ..... NOTOC required - Class 9 DG

Supplementary information may also be provided in the NOTOC to give further information to crew in the event of an incident involving these types of battery (refer to the example NOTOC in section 9.1.3.5 of this manual).

9.1.2 LABELS

9.1.2.1 DANGEROUS GOODS HAZARD LABELS

Dangerous Goods packages and containers shall have the appropriate Hazard labels affixed. Hazard labels are in the shape of a square, 4 inches by 4 inches, set at an angle of 45 degrees.

9.1.2.2 DANGEROUS GOODS – SPECIAL HANDLING LABELS

Certain Dangerous Goods require special Handling labels in addition to Hazard labels. Handling labels are rectangular labels and provide information on the proper handling and stowage of packages of Dangerous Goods.

9.1.3 NOTIFICATION TO CAPTAIN (NOTOC)

General Information

The AN(HK)O stipulates that information provided to the Commander/PIC in respect of Dangerous Goods is in accordance with the ICAO Technical Instructions. The ICAO Technical Instructions require that "the operator of an aircraft on which Dangerous Goods are carried shall provide the Commander / PIC, as early as practical before departure of the aircraft, with accurate and legible written or printed information concerning any Dangerous Goods that are carried as cargo."

The Notification to Captain (NOTOC) used by Dragonair is an IATA recommended document.

The Notification to Captain (NOTOC), fulfils the requirements of the Air Navigation (Hong Kong) Order and ICAO Technical Instructions to notify the Commander/PIC of the carriage of Dangerous Goods or other Special Loads. The Shipping Name, Drill Code, Risk, Quantity and Location are specified on the NOTOC. Additional information regarding NOTOC documentation is included under "NOTOC" in this section.

9.1.3.1 FORMAT

Departure Stations present NOTOC information by a computer generated e-NOTOC. However, occasionally a departure Station may use a manual form. The two forms contain the same information with a slightly different layout.

Supplementary Information (SI) is included at the end of the form. Special handling instructions, or information relating to the specified DG item number, are annotated in this section.

The Cargo Handing staff shall prepare a NOTOC whenever DG or other items requiring Special Stowage are assigned to a flight. The items are highlighted on the Loadsheet with the appropriate NOTOC Codes. The NOTOC shall be signed by the Cargo staff and a Loading Officer to certify that the Dangerous Goods have been inspected and loaded in good condition and in the correct position.

The Commander/PIC shall countersign the NOTOC and return one copy to the Loading Officer, the other copy shall remain readily accessible to the Flight Crew for the remainder of the flight.

9.1.3.2 CERTIFICATION CLAUSE

The purpose of the Commander/PIC's signature on the NOTOC is to indicate their awareness of the carriage of Dangerous Goods or Special Loads. The Commander/PICs signature does not indicate or validate compliance with the regulations; that is the Traffic/Cargo Department's responsibility, as indicated by the Certification Clause on the NOTOC.

Commanders/PICs shall not sign the NOTOC until the Certification Clause has been completed.

Flight Crew shall report all instances of incorrectly handled or completed NOTOCs to the Manager Cargo Services via a Commander's Administrative Report (CAR) to Line Operations.

Dangerous goods packages, overpacks and freight containers shall be inspected for evidence of leakage or damage immediate prior to loading on an aircraft or into a unit load device, as specified in the ICAO Technical Instructions.

9.1.3.3 MULTIPLE SECTORS

When Dangerous Goods are carried on multiple sectors, a new NOTOC will be issued at each transit.

9.1.3.4 FLIGHT SPARES

Certain items in an aircraft Flight Spares Kit are technically considered Dangerous Goods. Items, such as a spare engine Fuel Control Unit, would typically require the issue of a NOTOC.

Under IATA DG Regulations, such items may be carried in the Flight Spares Kit without the issue of a NOTOC. The items shall be listed as part of the Flight Spares Kit. The list is placed with other flight documents such as the Certificate of Airworthiness and Certificate of Registration and Radio Station License normally located on a bulkhead in the Flight Deck.

Flight Spares or components which are removed from an aircraft during maintenance for return shipping require the issue of a NOTOC if classified as DG (e.g. items removed and returned in the Flight Spares Kit may have residual fuel or oil). Unserviceable components being returned for maintenance or repair are not considered part of the Flight Spares Kit.

9.1.3.5 NOTOC FORMS

e-NOTOC Explanation – refer example NOTOC below:

- line (item) number
- UN (United Nations) or ID (IATA Identification) number
- proper Shipping Name
- class or division, including sub-risk
- number of pieces
- individual piece quantity/transport index
- total quantity/transport index
- packing type
- Cargo Aircraft Only, when applicable
- loading position

  The right-hand column of the NOTOC, headed ‘Pos’, shows the loading position of each DG item. The decode of the 3-digit ‘Pos’ is as follows:

  1st digit Cargo compartment
  2nd digit Individual pallet/ULD position
  3rd digit P = pallet, L/R = container on Left or Right hand side
  A320/1 are bulk-loaded so only specify the cargo compartment.
- departure point of shipment
- destination of shipment
- Airway Bill Number
- drill code
- packing group / radiation category, when applicable
- Interline Message Procedure Code
- ULD type and Serial Number
- Supplementary information

e.g. FROZEN CARGO – DO NOT TURN ON HEATER, or
SPECIAL TEMPERATURE REQUIREMENTS 10C to 15C

NOTOC: AIRBUS (SAMPLE)

```
--------------------------------------------------------------------------------
                                    PRINTED AT HKG ON 15DEC10 12:52L UTC:0452
SPECIAL LOAD NOTIFICATION TO CAPTAIN
--------------------------------------------------------------------------------
FROM          FLIGHT              DATE              A/C REG     PAGE          1
HKG           KA 482              15DEC10            BHYQ
--------------------------------------------------------------------------------
LINE UN/ID NR DANGEROUS GOODS
     CL/DV/COMP(SUB)    PCS    QTY/TI            TOTAL       PTYP       CAO       POS
FROM TO   AWB NR                DRILL       PG/RRR CAT    IMP CODE           ULD CODE

001. UN 1950  AEROSOLS, NON-FLAMMABLE, CONTAINING SUBSTANCES IN DIVISION 6.1, P
              ACKING GROUP III AND SUBSTANCES IN CLASS 8, PACKING GROUP III
     2.2 (6.1) (8)      10     X 1.00KG     =  10.00KG       MSC          N        H5
HKG  TPE  160-88776655        2CP                          RNG (RPB) (RCM)        BULK

002. UN 2915  RADIOACTIVE MATERIAL, TYPE A PACKAGE
     7                   1     X 0.5 TI     =     0.50TI                 N        H5
HKG  TPE  160-99988765          7L          II             RRY                    BULK

003. UN 1950  AEROSOLS, FLAMMABLE, CONTAINING SUBSTANCES IN DIVISION 6.1, PACKI
              NG GROUP III AND SUBSTANCES IN CLASS 8, PACKING GROUP III
     2.1 (8) (6.1)      10     X 10.00KG    = 100.00KG      4G           N       11L
HKG  TPE  160-55668899          10C                          RFG (RCM) (RPB) AKE55667CX

--------------------------------------------------------------------------------

OTHER SPECIAL LOAD
     FRM/TO AWB NR        CONTENTS                PCS    QTY        IMP        POS
                                                                    CODE    ULD CODE

001. HKGTPE 160-68335731  LITHIUM METAL CELLS       2     3.00KG   ELM
                                                                             AKE34587CX

002. HKGTPE 160-66934587  NOTEBOOK                 20   200.00KG   ELI
                                                                             AKE34587CX

SI 001. LITHIUM POLYMER BATTERIES


003. HKGTPE 160-66873388  MOBILE PHONE            20   200.00KG   ELI
                                                                             AKE36687CX

SI 002. LITHIUM ION BATTERIES

--------------------------------------------------------------------------------

REMARKS
       VERIFIED BY           PETER
--------------------------------------------------------------------------------
THERE IS NO EVIDENCE THAT ANY DAMAGED OR LEAKING PACKAGES
CONTAINING DANGEROUS GOODS HAVE BEEN LOADED ON THE AIRCRAFT.
--------------------------------------------------------------------------------
INTEGRATED OPERATIONS CENTRE CONTACT PHONE NUMBER: 852-27478811
--------------------------------------------------------------------------------
LOADING SUPERVISOR'S SIGNATURE:                  CAPTAIN'S SIGNATURE:
*
*
                                -END OF NOTOC-
```

Reverse of Manual NOTOC Form

Separation of Packages

Hazard Label	1	2	3	4.2	4.3	5.1	5.2	8
1 excluding 1.4S	Note 1	X	X	X	X	X	X	X
1.4S	Note 2	-	-	-	-	-	-	-
2	X	-	-	-	-	-	-	-
3	X	-	-	-	-	X	-	-
4.2	X	-	-	-	-	X	-	-
4.3	X	-	-	-	-	-	-	X
5.1	X	-	X	X	-	-	-	-
5.2	X	-	-	-	-	-	-	-
8	X	-	-	-	X	-	-	-

Note 1. Explosives belonging to the same compatibility group may be stowed together, regardless of the division number Explosives which do not belong to the same compatibility group must not be stowed together, whether or not they belong to the same division in the classification except that Compatibility Groups C, D and E may be stowed together.

Note 2. Explosives in Compatibility Group S may be stowed with all compatibility groups other then A and L.

Note 3. Division 4.1 and Classes 6, 7 and 9 are not included in this table as they do not require Segregation from other classes of dangerous goods.

Maximum Transport Index of Radioactive Material Permitted in Each Compartment

TYPE OF A/C	COMPARTMENT	LIMITATION	NOTES
All Passenger Aircraft	Forward Aft 5	7 TI 7 TI 0	1. Higher TI is permissible if authorized by Cargo Services Department H.O. and a copy of such authorization is attached here to. 2. Both LON and HKG are holding dispensation as follows: For All MAX 50 TI per A/C Passenger 30 TI per compt Aircraft 10 TI per package
747F	Forward Aft 5 MAIN DECK	50 TI 200 TI 200 TI 200 TI	1. The maximum TI permissible on any one cargo aircraft is 200 TI in which only 50 TI of fissile material is permitted. 2. Maximum per aircraft includes packages loaded on main deck and lower deck.

Remarks : For A340 only, aft cargo compt. is restricted to 20 TI of long haul sector with crew rest container installed.

DANGEROUS GOODS				OTHER SPECIAL LOAD	
IMP CODE	NAME	CLASS	DIVISION / COMPAT. GRP.	IMP CODE	NAME
RCX	EXPLOSIVES	1	1.3C	AVI	Live Animal
REX			1.1/1.2/1.3/1.4F/1.5/1.6	*AVC	AVI (Cold blooded animals) handled as AVP but not allow for B744/B77 forward compartment when built up in open pallet.
RGX			1.3G		
RXB			1.4B		
RXC			1.4C	*AVP	AVI handled as PER/WET shipment
RXD			1.4D		
RXE			1.4E		
RXG			1.4G	*PED	Durians
RXS			1.4S		
RFG	Flammable Gas	2	2.1		
RNG	Non-Flammable, Non-Toxic Gas		2.2		
RGL	Cryogenic Liquid				
RPG	Toxic Gas		2.3		
RFL	Flammable Liquid	3			
RFS	Flammable Solid	4	4.1		
RSC	Spontaneously Combustible		4.2		
RFW	Dangerous When Wet		4.3		
ROX	Oxidizer	5	5.1		
ROP	Organic Peroxide		5.2		
RPB	Poison	6	6.1		
RIS	Infectious Substance		6.2		
RRW	Radioactive-White	7	Cat I		
RRY	Radioactive-Yellow		Cat II & III		
RCM	Corrosive	8			
RSB	Polymeric Beads	9			
MAG	Magnetized material				
ICE	Dry Ice				
RMD	Miscellaneous Dangerous Goods				
CAO	Cargo Aircraft Only				

Remarks:
a.) Refer Cargo – IMP manual for IMP codes of other special load. Code the full word if no IMP codes can be found.
b.) "*" abbreviates an NON-IATA standard code

9.1.3.6 LOADSHEET AND NOTOC CODES

The following list details the codes used on the Loadsheet and NOTOC to identify special categories of load. The REMARKS column is based on the procedures used by the ground agent, but is provided here for information only. The listing does not imply any permission for acceptance or carriage.

Code	Description	Class	Loading Hold			NOTOC Required	Remarks
			A320	A321	A330		
AOG	Spare Parts Required for Aircraft on Ground		Any	Any	Any	No	
	Live Animals						**A320/A321:**
AVB	(1) Honey Bee		--	--	3,4,5	Yes	• AVC/AVP must not be loaded in the same cargo compartment (fwd/aft) with EAT/HUM/RCL/RIS/RPB/ICE
AVC	(2) Cold-Blooded Animals (e.g. reptiles, amphibians, arthropods, etc.)		3,4,5	3,4,5	Any	Yes	• AVB/AVC/AVP/AVI must not be loaded near Radioactive Material. Refer AHM regarding the minimum separation distance
AVP	(3) Aquatics & Live Fish (i.e. packed with water and oxygen)		Any	Any	Any	Yes	• Loading Regulation of AVI/WET shipments must be strictly applied for AVB/AVC/AVP/AVI • Segregation from live animals is not required for quantity of ICE loaded in one ULD at/or less than 2kg
AVI	(4) All Other Live Animals (except AVB/AVC/AVP)		--	--	3.4.5	Yes	• Hold 5 is considered as a single loading position of AFT compartment **A330:** • AVI must not be loaded in closed container. • AVB/AVC/AVP/AVI must not be loaded near Radioactive Material. Refer AHM regarding the minimum separation distance • Loading Regulation of AVI/WET shipments must be strictly applied for AVB/AVC/AVP/AVI • AVB with ICE (packed by the shipper) in the same ULD is allowed • AVB/AVC/AVI must be segregated by one ULD position from EAT/HUM/RCL/RIS/RPB/ICE • Segregation from live animals is not required for quantity of ICE loaded in one ULD at/or less than 2kg • Segregation from ICE is not required for ULD loaded with AVP • Hold 5 is considered as a single loading position of AFT compartment
BAL	Ballast Hold Load		--	--	Any	No	

Code	Description	Class	Loading Hold			NOTOC Required	Remarks
			A320	A321	A330		
BED	Stretcher Installed in Cabin		--	--	Pax Cabin	No	
BEH	Stretcher Loaded in Cargo Hold		--	--	Any	No	
BIG	Big Item		--	--	1,2,3,4	No	
BUP	Pre-packaged Cargo		--	--	Any	No	
CAO	Dangerous goods - Cargo Aircraft Only	--	--	--	--	--	For carriage on freighters only
COM	Company Mail (OCS)		Inflight Doc Pouch	Inflight Doc Pouch	Inflight Doc Pouch	No	Inflight Document Pouch (blue) is installed in the cabin of all aircraft In case of COM overflow: **A320/A321:** • Load in cargo compartment **A330:** • Load in PB container
DIP	Diplomatic Mail		Security Locker	Security Locker	Security Locker	No	• For overflowed diplomatic mail, ➢ **A320/A321** – must be loaded in security bin(s) ➢ **A330** – must be loaded in upper part of sort container with seal OR dedicated container with seal.
EAT	Foodstuff for Human Consumption		Any	Any	Any	No	**A320/A321:** • Must be segregated by one compartment section from AVB/AVC/AVI/HUM • Must be segregated in different compartment (fwd/aft) with RPB/RIS **A330:** • Must be segregated by one ULD position (no-fit or occupied) from AVB/AVC/AVI/HUM/RPB/RIS
EIC	Equipment in Compartment		Any	Any	Any	No	
ELI	Excepted Lithium Ion Batteries		Any	Any	Any	Yes	**A320/A321:** • Must be segregated in different compartment (fwd/aft) from RFG/RFL/RFS/RFW/RSC/RXS **A330:** • Must be segregated by one ULD position (no-fit or occupied) from RFG/RFL/RFS/RFW/RSC/RXS

Code	Description	Class	Loading Hold			NOTOC Required	Remarks
			A320	A321	A330		
ELM	Excepted Lithium Metal Batteries		Any	Any	Any	Yes	Carriage of Lithium Metal batteries on their own is restricted to Cargo Aircraft Only. ELM must be carried "packed with equipment" or "contained in equipment". **A320/A321:** • Must be segregated in different compartment (fwd/aft) from RFG/RFL/RFS/RFW/RSC/RXS **A330:** • Must be segregated by one ULD position (no-fit or occupied) from RFG/RFL/RFS/RFW/RSC/RXS
FIL	Undeveloped Film		Any	Any	Any	No	Must not be loaded near Radioactive Material. Refer AHM regarding the minimum segregation distances.
HEA	Heavy Cargo		Any	Any	1,2,3,4	No	Heavy item above 150kg per piece **A320/A321:** • Must not exceed 230kg per piece
HEG	Hatching Eggs		Any	Any	Any	No	**A320/A321:** • Must be segregated by one compartment section from RCL/ICE • Must be segregated in different compartment (fwd/aft) from RPB/RIS • Must be segregated by minimum segregation distance from RRY/RRW. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from RCL/ICE
HUM	Human Remains in Ash		Security Locker	Security Locker	Security Locker	No	
HUM	Human Remains in Coffins		1,3,4	1,2,3,4	1,2,3,4	No	**A320/A321:** • Must be segregated by one compartment section from AVB/AVC/AVP/EAT **A330:** • Must be segregated by one ULD position (no-fit or occupied) from AVB/AVC/AVI/AVP/EAT • Must be segregated in different compartment (fwd/aft) from dogs or other sensitive animals.

Code	Description	Class	Loading Hold			NOTOC Required	Remarks
			A320	A321	A330		
ICE	Carbon Dioxide Solid (Dry Ice)	9	Any	Any	Any	Yes	• Fwd compartment max allowed 200kg • Aft compartment (include H5) max allowed 200kg • Entire aircraft max allowed 400kg • Entire H5 is considered as a single loading (ULD) position • Refer to "Live Animal" for the segregation requirement of ICE against Live Animal **A320/A321:** • Must be segregated by one compartment section from HEG. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from HEG.
JYP	Mini-size Cool Container		--	--	3, 4	No	
LHO	Living Human Organs		Any	Any	Any	No	
MAG	Magnetized Materials	9	--	--	2,3	No	
MUW	Munitions of War		Any	Any	Any	Yes	
OBX	Obnoxious Items		Any	Any	Any	No	Loads that produces strong offensive odour.
OHG	Overhang Cargo		--	--	1,2,3,4	No	An item loaded on one or more pallets that overhangs positions other than those on which it is loaded.
PED	Durian		--	--	1,2,3,4	Yes	All containing units must be covered by polythene sheets from outside and masking taped down to 2/3 of the height.
PER	Perishable Cargo		Any	Any	Any	No	
RCL	Cryogenic Liquids	2.2	Any	Any	Any	Yes	**A320/A321:** • Must be segregated by one compartment section from AVB/AVC/AVI/AVP/HEG **A330:** Must be segregated by one ULD position (no-fit or occupied) from AVB/AVC/AVI/AVP/HEG

Code	Description	Class	Loading Hold			NOTOC Required	Remarks
			A320	A321	A330		
RCM	Corrosive	8	Any	Any	Any	Yes	**A320/A321:** • Must be segregated by one compartment section from RFW. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from RFW. **A320/A321/A330:** • Note: When RCM and RFW are packed as a single substance (single item), segregation is not required.
RCX	Explosive	1.3C	--	--	--	--	Forbidden to be carried on KA aircraft
RDS	Biological Substance	6	Any	Any	Any	No	
REQ	Dangerous Goods in Excepted Quantities	--	Any	Any	Any	No	
REX	Explosive	1.3E	--	--	--	--	Forbidden to be carried on KA aircraft
RFG	Flammable Gas	2.1	Any	Any	Any	Yes	**A320/A321:** • Must be segregated in different compartment (fwd/aft) from ELI/ELM/RLI/RLM. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from ELI/ELM/RLI/RLM.
RFL	Flammable Liquid	3	Any	Any	Any	Yes	**A320/A321:** • Must be segregated in different compartment (fwd/aft) from ELI/ELM/RLI/RLM. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from ELI/ELM/RLI/RLM.
RFS	Flammable Solid	4.1	Any	Any	Any	Yes	**A320/A321:** • Must be segregated in different compartment (fwd/aft) from ELI/ELM/RLI/RLM. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from ELI/ELM/RLI/RLM.

Code	Description	Class	Loading Hold			NOTOC Required	Remarks
			A320	A321	A330		
RFW	Dangerous when Wet	4.3	Any	Any	Any	Yes	**A320/A321:** • Must be segregated by one compartment section from RCM. • Must be segregated in different compartment (fwd/aft) from ELI/ELM/RLI/RLM. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from ELI/ELM/RCM/RLI/RLM. **A320/A321/A330:** • Note : When RCM and RFW are packed as a single substance (single item), segregation is not required.
RGX	Explosive	1.3G	--	--	--	--	Forbidden to be carried on KA aircraft
RIS	Infectious Substance	6.2	Any	Any	1,2,3,4	Yes	**A320/321:** • Must be stowed in different compartment (FWD/AFT) with AVB/AVC/AVI/AVP/EAT/HEG • There must be no baggage loaded in the same compartment section with RIS **A330:** • Must not be loaded in H5 • Must be segregated by one ULD position (no-fit or occupied) from AVB/AVC/AVI/AVP/EAT/HEG • When RIS is loaded in sort container, the first choice is to load it in the security locker, followed by the upper part of the sort container. In either case, there must be no baggage loaded in the same container compartment.
RLI	Fully Regulated Lithium Ion Batteries	9	Any	Any	Any	Yes	**A320/A321:** • Must be segregated in different compartment (fwd/aft) from RFG/RFL/RFS/RFW/RSC/RXS **A330:** • Must be segregated by one ULD position (no-fit or occupied) from RFG/RFL/RFS/RFW/RSC/RXS

Code	Description	Class	Loading Hold			NOTOC Required	Remarks
			A320	A321	A330		
RLM	Fully Regulated Lithium Metal Batteries	9	Any	Any	Any	Yes	Carriage of Lithium Metal batteries on their own is restricted to Cargo Aircraft Only. RLM must be carried “packed with equipment” or “contained in equipment”. **A320/A321:** • Must be segregated in different compartment (fwd/aft) from RFG/RFL/RFS/RFW/RSC/RXS **A330:** • Must be segregated by one ULD position (no-fit or occupied) from RFG/RFL/RFS/RFW/RSC/RXS
RMD	Miscellaneous Dangerous Goods	9	Any	Any	Any	Yes	
RNG	Non-Flammable / Non-Toxic Gas	2.2	Any	Any	Any	Yes	
ROP	Organic Peroxide	5.2	Any	Any	Any	Yes	
ROX	Oxidizer	5.1	Any	Any	Any	Yes	**A320/A321:** • Must be segregated by one compartment section from RFL/RSC. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from RFL/RSC.
RPB	Toxic	6.1	Any	Any	1,2,3,4	Yes	**A320/321:** • Must be stowed in different compartment (fwd/aft) from AVB/AVC/AVI/AVP/EAT/HEG • There must be no baggage loaded in the same compartment section with RPB **A330:** • Must not be loaded in H5 • Must be segregated by one ULD position (no-fit or occupied) from AVB/AVC/AVI/AVP/EAT/HEG • When RPB is loaded in sort container, the first choice is to load it in the security locker, followed by the upper part of the sort container. In either case, there must be no baggage loaded in the same container compartment,
RPG	Toxic Gas	2.3	Any	Any	Any	Yes	
RRE	Radioactive Material, Excepted Packages	7	Any	Any	Any	No	
RRW	Radioactive Material Category I – White	7	Any	Any	Any	Yes	

Code	Description	Class	Loading Hold			NOTOC Required	Remarks
			A320	A321	A330		
RRY	Radioactive Material Category II and III – Yellow	7	--	--	1,2,3,4	Yes	Refer AHM regarding the minimum segregation distances.
RSB	Polymeric Beads	9	Any	Any	Any	Yes	
RSC	Spontaneously Combustible	4.2	Any	Any	Any	Yes	**A320/A321:** • Must be segregated by one compartment section from ROX. • Must be segregated in different compartment (fwd/aft) from ELI/ELM/RLI/RLM. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from ELI/ELM/RLI/RLM/ROX.
RXB RXC RXD RXE RXG	Explosive	1.4B 1.4C 1.4D 1.4E 1.4G	--	--	--	--	Forbidden to be carried on KA aircraft
RXS	Explosive	1.4S	Any	Any	Any	Yes	**A320/A321:** • Must be segregated in different compartment (fwd/aft) from ELI/ELM/RLI/RLM. **A330:** • Must be segregated by one ULD position (no-fit or occupied) from ELI/ELM/RLI/RLM.
SWC	Vibration Sensitive Cargo		Any	Any	Any	No	
TDH	Temperature Definite Product – High Temperature		--	--	--	--	Forbidden to be carried on KA Airbus aircraft
TDL	Temperature Definite Product – Low Temperature		--	--	--	--	Forbidden to be carried on KA Airbus aircraft
TDN	Temperature Definite Product – Normal Temperature		3,4	3,4	3,4	Yes	
TDP	Temperature Definite Products		--	--	--	--	Forbidden to be carried on KA Airbus aircraft

Code	Description	Class	Loading Hold			NOTOC Required	Remarks
			A320	A321	A330		
VAL	Valuable Cargo		Security Locker	Security Locker	Security Locker	No	In case of VAL overflow: **A320/A321:** • if security bin is available, load in security bin • if security bin is not available, load into compartment 5 **A330:** • Must be loaded in upper part of sort container with seal OR dedicated container with seal.
WET	Wet Cargo		Any	Any	Any	No	
XPS	Priority Small Package		Any	Any	Any	No	
--	Ammunition as baggage		Security Locker	Security Locker	Security Locker	Yes	• Ammunition must be securely boxed. • Maximum 5kg per passenger. • For overflowed ammunition, ➢ **A320/A321** – must be loaded in security bin(s) ➢ **A330** – must be loaded in upper part of sort container with seal OR dedicated container with seal.
--	Firearm as baggage		Security Locker	Security Locker	Security Locker	Yes	• For overflowed firearms, ➢ **A320/A321** – must be loaded in security bin(s) ➢ **A330** – must be loaded in upper part of sort container with seal OR dedicated container with seal.
--	Wheelchair or mobility device with spillable (wet) battery		Any	Any	Any	Yes	• Must be loaded, stowed, secured and unloaded in an UPRIGHT position. • Battery must be secured to wheelchair or mobility device. • Battery must be disconnected, battery terminal must be insulated.
--	Wheelchair or mobility device with lithium batteries		Any	Any	Any	Yes	• Battery must be of a type which meets the UN test requirement • Battery must be disconnected, battery terminal must be insulated, e.g. by being enclosed within a battery container • Battery must be secured to wheelchair or mobility device

9.1.4 DANGEROUS GOODS INCIDENTS AND ACCIDENTS

Dangerous Goods Incidents Reporting Procedure

All incidents involving Dangerous Goods shall be notified to the Manager Cargo Services and the Head of Corporate Safety & Quality for investigation. Engineering Department and the Head of Corporate Safety & Quality shall be immediately notified of any spillage and contamination incidents.

An Air Safety Report (ASR) shall be submitted.

9.1.4.1 DANGEROUS GOODS INCIDENT – IN FLIGHT EMERGENCY

When an in-flight emergency occurs on board an aircraft transporting Dangerous Goods, the Commander/PIC shall, as soon as the situation permits, inform the appropriate ATC unit of any Dangerous Goods carried as cargo on board the aircraft and provide the following information from the NOTOC:

- proper shipping name
- class or division
- UN or ID number
- sub-risk
- number of packages
- quantity in each package
- compatibility group – from Code
- location – ULD/position
- IOC contact telephone number +852 27478811.

If the nature of the in-flight emergency limits the time available, then only the IOC contact telephone number need be passed to ATC.

9.1.4.2 DANGEROUS GOODS INCIDENT – EMERGENCY RESPONSE GUIDANCE (ICAO)

The Emergency Response Guidance (Red) document contains general information on the factors that may need to be considered when dealing with any Dangerous Goods incident.

IN FLIGHT
• Follow the appropriate aircraft emergency procedures for fire or smoke removal • No smoking sign on • Consider landing as soon as possible • Consider turning off non-essential electrical power • Determine source of smoke/fumes/fire • For dangerous goods incidents in the passenger cabin, see cabin crew checklist and coordinate cockpit/cabin crew actions • Determine emergency response drill code • Use guidance from aircraft emergency response drills chart to help deal with incident • Notify ATC of the UN number, classification group and location of the dangerous goods being carried, or provide a telephone number (+852 27478811) where this information can be obtained
AFTER LANDING
• Disembark passengers and crew before opening any cargo compartment doors • Inform ground personnel/emergency services of nature of dangerous goods and where stowed • Make appropriate entry in maintenance log

A similar checklist for Cabin Crew is given in Vol.7. Both should be used in association with existing Emergency Procedures in the QRH and FCOMs.

The Emergency Response Guidance document has been designed for in-flight use and where the goods are accessible, as correct identification of the item causing the problem is essential to the application of the correct Emergency Response Drill.

9.1.4.3 SPILLAGE OF SUBSTANCES IN AIRCRAFT

Any package of dangerous goods found on an aircraft and which appears to be damaged, leaking, emitting fumes, stained or any other evidence of damage shall be reported to the Ground Engineer and the Commander/PIC immediately. The package shall be removed or arrangements made for its removal by an appropriate authority or organisation. The remainder of the consignment shall be inspected to ensure its condition is acceptable for transport by air and that no damage or contamination has occurred to the aircraft or its load.

If the spillage is a flammable liquid, do not continue to use or operate any electrical system.

The local station management shall notify the appropriate authorities depending on the nature and gravity of the incident. Engineering personnel shall conduct an inspection of the aircraft in accordance with their procedures.

A SADD shall be raised whenever spillage occurs in order to facilitate the necessary

clean-up work on return to Hong Kong.

Flight Crew and Ground staff shall be aware of the importance of minimising exposure to potentially hazardous materials and shall take steps to quickly assess the risk and take positive action to limit exposure, or evacuate the aircraft if deemed necessary.

The NOTOC is the source document for identifying the hazard and the hazard label on the package. If the spillage cannot not be positively identified, two courses of action are available:

Ground Engineer shall obtain a sample of the substance in a clean jar and forward the sample via ENG (QA) in Hong Kong to Technical Services for analysis, or

if this is not possible, Cargo shall be requested to obtain the chemical data sheet for the substance from the shipper and this shall be sent to ENG (QA).

If the spillage may be identified from the shipping documentation, a copy of the documentation shall be faxed to ENG (QA) – +852 23218496.

Obtaining a sample is important because even if the spillage is accurately identified, it is critical to determine the metallurgical affects on the aircraft structure. This may only be accomplished by laboratory testing.

9.2 CARRIAGE OF WEAPONS & MUNITIONS OF WAR

9.2.1 MUNITIONS OF WAR

Definition of Munitions of War

In accordance with the AN(HK)O and AOC – "Munitions of war are any weapon, ammunition or article containing an explosive or noxious liquid, gas, or other thing which is designed or made for use in warfare against the person. They include parts, whether components or accessories, for any such weapon, ammunition or article."

Carriage of Munitions of War

The AN(HK)O stipulates that a Hong Kong registered aircraft shall not carry any Munitions of War without written permission of the HKSAR Government and in accordance with any special conditions of carriage relating thereto.

Accidents and incidents arising from the carriage of weapons and munitions of war are reportable under the Mandatory Occurrence Reporting Scheme.

The Commander/PIC shall be informed before a flight begins of the details of any munitions of war approved to be carried.

9.2.2 SPORTING WEAPONS, AMMUNITION AND RESTRICTED ARTICLES

Definition of Sporting Weapons and Restricted Articles

In accordance with the AN(HK)O and AOC – "Sporting weapons, not being weapons originally designed as munitions of war, may be carried with the approval of the operator and without a Permission, provided they are unloaded, are carried as passenger baggage or as cargo, and are stowed in a part of the aircraft that is inaccessible to passengers. The passenger or shipper shall furnish details about such weapons to be operator before the flight. Ammunition for sporting weapons may also be carried subject to such dangerous goods limitations as are applicable".

Firearms and Ammunition

a. Unloaded sports guns and /or firearms belonging to bodyguards or security personnel assigned to protect Heads of State and other VIPs may be carried as checked baggage or security items.

b. Ammunition for use in the above mentioned firearms (classified by IATA as Division 1.4s), securely boxed in quantities not exceeding 5kg gross weight per passenger, may be carried as checked baggage or security items. Allowances for more than one passenger may not be combined into one or more packages.

The items listed as approved for carriage in both a. and b. above are not permitted as carry-on baggage or on one's person. Furthermore, ammunition with explosive or incendiary projectiles is not permitted for carriage.

The Commander/PIC shall be informed via NOTOC (making use of the special loads section) of the location and any other details available whenever ammunition is carried.

Examples of Weapons and Restricted Articles

The following items are examples of Weapons and Restricted Articles: Firearms, Humane Killers, Bolt Guns, Flare Pistols and Starting Pistols, Ammunition, Replica or Imitation Firearms and Crossbows, all Knives including Hunting Knives and Ceremonial Swords, Cutters, Scissors or Razor Blades, Knuckle-dusters and Golf clubs.

Notes:

1. Flight Crew or Cabin Crew shall not accept Custody of any weapon or restricted article.

2. Weapons and restricted articles shall not be returned to their Owner(s) until after disembarkation and after Approval has been received from the Local Authorities;

3. Weapons and restricted articles shall not be left in the Flight Deck for safe-keeping under any circumstances.

Conditions for Carriage of Weapons and Restricted Articles

Weapons and Restricted Articles shall only be carried after the Commander/PIC and the appropriate Authorities have been advised and the necessary documentation completed.

The Commander/PIC or an Airline Representative (e.g. ASM or MOD) may be required to sign a document confirming the carriage of the weapon(s) out of the Country. The document does not constitute a receipt and it is not the Commander's/PIC responsibility to ensure that the Weapon is returned to the passenger at the destination.

Where local Regulations require the Commander/PIC to sight the weapon(s); the weapon(s) shall not be carried through the Cabin with passengers on board.

Weapons and Restricted Articles shall be placed in appropriate Security Cartons and tagged to the final Destination. It is the responsibility of the Ground Services Staff to

ensure compliance with local Regulations. Security Cartons shall be sealed and stowed in a position which shall normally be inaccessible in flight. This is typically the Forward Cargo Compartment, but firearms and ammunition shall be stowed in the Sort Container and onward destinations advised by Telex.

All electrical or electronic equipment carried in the Baggage Holds shall have their power source disconnected before accepted.

INTENTIONALLY BLANK

TABLE OF CONTENT

10 SECURITY

10.1 NORMAL SECURITY PROCEDURES

10.1.1 GENERAL

Your life may depend upon KA security procedures remaining confidential. Do not discuss the contents of this section with passengers, your family or the general public.

Company operational security procedures are based on the sterile area concept. This requires screening of all passengers and hand baggage for weapons and explosives either before they enter the departure lounge or, where departure lounges are not considered secure, before they board the aircraft.

Crew members should exercise continual vigilance regarding security procedures and should report any irregularities to the Commander or FA1.

Crew members are advised that all Company operational information and publications such as Crew Roster etc are strictly confidential and should not be divulged to non-Company persons.

10.1.1.1 AIRPORT SECURITY ALERT STATUS

Situations, events and occurrences throughout the network are constantly reviewed in order to assess their effect on Aviation Security. A Security Alert will be issued when it is deemed necessary to increase security measures. There are three classifications of the Security Alert that may be applied for a specific port:

Green Alert – Normal Status

Where it is assessed that the situation is normal the port will be put on a “GREEN ALERT” status. Normal security procedures are as per the “Green Alert Card”.

Amber Alert – Intermediate Status

Where it is assessed that an increased level of threat exists to aviation and/or Dragonair operations in the local environment the port will be put on “AMBER ALERT” status. Enhanced security procedures are as per “Amber Alert Card”.

Red Alert – Full Alert Status

Where it is assessed that a high level of threat exists to aviation and/or Dragonair operation in the local environment the port will be put on “RED ALERT” status. Maximum security procedures are as per “Red Alert Card”.

The “Alert Cards” are included in the "SECURITY REPORTS, FORMS & CHECKLISTS" section of this manual.

Whenever a change in the security alert status to specified airports is required, the Manager Security will issue an advice to those affected ports, as well as notify the IOC and other internal divisions including FOP and ISD. FOP and ISD will disseminate the information to crew member by means of the “Confidential Operational Notice”.

10.1.1.2 CONFIDENTIAL OPERATIONAL NOTICE

Sensitive security information is disseminated to crews via a Confidential Operational Notice. Copies of current Confidential Operational Notice are held in Flight Dispatch. Confidential Operational Notices are STRICTLY CONFIDENTIAL and must not be copied or circulated. It is the responsibility of all crew to ensure that they are fully conversant with Confidential Operational Notices.

10.1.1.3 INTELLIGENCE INFORMATION

Security information is typically received from Country Managers, Port Managers, Governments and other Third Party Agencies. Flight Operations and Security will

evaluate the information, provide any recommendations and implement appropriate actions.

10.1.1.4 PUBLICITY

Publicity of Security Incidents is undesirable but most probably unavoidable. Crew SHALL NOT make any statements to Press or Media Interviewers. All requests for information shall be referred to Dragonair Corporate Communication Department or the local Senior Dragonair Representative.

Potential Hijackers and Bomb Hoax culprits often gain valuable insight and information from Press coverage. Passengers and Crew involved in security incidents shall be requested to refrain from discussing the event with the Press.

10.1.2 AIRCRAFT SECURITY

10.1.2.1 SECURITY CHECK OF AIRCRAFT

Before departure from an originating station, the aircraft will be searched by Flight Deck Crew and Cabin Crew after all cleaners, caterers and ground engineers have left the aircraft. Cabin crew should check their own responsible area including seats, areas under the seats, seat pockets, overhead baggage lockers, compartments and galley areas. All overhead lockers should remain open after completion of security check. Particular emphasis should be given to searching the toilet compartments. FA1 should ensure that all security checks are completed and both the Commander and ground staff informed so that passenger boarding may commence.

The primary responsibility for checking toilets, galleys and the passenger cabin rests with the Cabin Crew and the responsibility for checking the Flight Deck area rests with the Flight Deck Crew.

If during the search any objects are found which give reason for suspicion, e.g. nonstandard equipment or toiletries, unusual wiring, 'mislaid' hand baggage, parcels, cameras etc, make no attempt to touch them but inform the Commander immediately.

During transit stops all crew should be observant to the following:

a. At stations where transit passengers or hand baggage is permitted to remain on board, the crew search of the cabin overhead lockers and wardrobes is not normally required, but a pre-departure check of the cockpit, galleys and toilets should be carried out. When a situation requires, passengers will be asked to retrieve and identify all their hand baggage and personal belongings. Cabin Crew will pass through the aircraft to ensure there are no items of baggage remaining which are unidentified. Any unclaimed items will be off loaded from the aircraft.

b. Access to the aircraft is restricted to authorized staff.

c. All lockers should remain closed during transit.

10.1.2.2 CATERING

Catering containers must be security checked by the galley Cabin Crew prior to departure. Containers that cannot be opened for checking (e.g. lock unserviceable etc) must be reported to FA1.

At transit ports, if there is no crew change, Cabin Crew will be responsible for checking all joining catering. However, where a crew change is involved, security checks will be required as for originating ports.

Last minute catering uplifts should be checked by Cabin Crew before departure.

10.1.2.3 BOND ITEMS

Overnight on ground all bonded items must be locked in bar boxes or bar carts and sealed and the seal numbers recorded.

At some stations, ground security staff may require verification of seal numbers.

Cabin Crew taking over sealed containers should check to ensure they are the same as recorded.

Bonded items must be checked on the ground if time allows. Any discrepancy must be reported to FA1 immediately and ground staff notified.

If bar boxes can only be opened in-flight, the FA1 should be notified of any discrepancies.

Seals must be kept or attached and seal numbers must be recorded.

10.1.2.4 IN-FLIGHT HANDLING PROCEDURES OF SUSPECTED BIOLOGICAL AGENT

In case powder is found in the cabin and is suspected to be a biological agent e.g. Anthrax, the following procedures should be adhered to:

a. If powder is found somewhere in the cabin, cabin crew should immediately cover the powder with cold wet towels.

b. Close the overhead air-conditioning outlets and move passengers away from the affected area.

c. Use the PA system to try to locate the passenger who may have dropped the powder. Captain should delay the aircraft parking, so passengers can be clearly identified in a controlled environment. Once the aircraft has positioned at the gate, passengers will be focused on immediate disembarkation, this situation should be avoided at all cost.

d. If unable to determine the source of the powder, seal-off the affected area and reorganize the seating arrangement. If situation permits, move passengers at least 4 rows away from the hot zone or isolate cabin section where hot zone is identified.

e. Segregate persons who had come into direct contact with the powder. Instruct them to wash their hands with soap and hot water so as to prevent spreading any powder to his/her face or transmitting to other persons. It is imperative that these persons must not move around the cabin to avoid potential contamination.

f. Report the case to CX IOC and who would notify KA Security, ground staff and local authority.

g. Crew should prepare the name list of all passengers who were in the hot zone and pass it to the local authority to facilitate any medical treatment or follow-up investigation.

h. Avoid eating or drinking while waiting for Police's arrival to prevent any potential contamination.

i. Upon police arrival, they will take charge of the situation. When the powder is believed to be a credible possible biological agent e.g. Anthrax, decontamination and follow up medical treatment will be arranged as necessary.

j. Medical procedures are extremely effective if start within a few hours of exposure.

10.1.2.5 CABIN SAFETY REPORT

The Cabin Safety Report is designed for reporting cabin safety related incidents eg inadvertent slide deployment, smoking, violation of electronic equipment/mobile phone regulations, unruly passengers, crew incapacitation, injuries to crew or passengers caused by the aircraft systems or equipment, usage or failure of any emergency equipment.

In the case of crew/passenger injuries caused by any aircraft feature or equipment, FA1 should also indicate in the CSR whether the feature/equipment was faulty at the time of the event for future investigation. Refer to Vol.11.6.2.2 for defect reporting procedures.

Whenever a CSR is raised the FA1 should pass it to the Commander for signature as an acknowledgement. If the incident is more serious and becomes an MOR, FA1 is to mark on the CSR form accordingly. For MOR identification FA1 is recommended to seek advice from the Commander who can make reference to the CAD Mandatory Reporting Scheme for guidance.

FA1 should submit the report to Corporate Safety and Quality Department (CSQ) within 24 hours via the quickest means, and place the report in the ISD flight envelope. For night stops at outports FA1 should seek assistance from the Commander to fax the form to the CSQ office +852 3193 2128.

CSR may also be filed electronically on Company Intranet by accessing the CSQ

website.

Dragonair CSRs are not de-identified, therefore any crew member, who, for whatever reason, feels uncomfortable submitting one should consider the submission of a report under Confidential Human Factors Reporting Scheme, in order to minimize the loss of valuable safety information.

10.1.2.6 COMPANY MAIL AND STORES

Company stores will not be loaded unless they are accompanied by the appropriate documentation. Packages should bear a label stating the nature of the contents, the consignor and the consignee, Aircraft components and spare parts should bear a serviceability label.

Last minute packages will be opened and inspected if considered necessary.

10.1.2.7 CARGO

When cargo which falls into the category of dangerous goods as defined in IATA Dangerous Goods Regulations is accepted for shipment, the Commander will be advised of its nature and where it is stowed on the aircraft. Such cargo should be accompanied by an accurate description of its nature and contents and must be stowed in the appropriate compartment on the aircraft.

10.1.2.8 SYRINGES/INJECTION NEEDLES

Since a syringe/injection needle is defined as a medical instrument or medical supply, a passenger who depends on it as a medicinal preparation during the flight may carry it. The HK CAD, AOC and FAA have no objection for syringe/injection needle to be carried onboard for medical use by a passenger. The following guidelines are for quick reference by Crews and FA1 is to ensure they are correctly followed: -

a. Passenger should provide the physician's certificate as a supporting document to ground staff for inspection.

b. If unable to provide the relevant document or certificate, the medication should bear a pharmaceutical label.

c. Ground Agent should then advise crews that the passenger is permitted to carry syringe/injection needle onboard.

d. Crews are not required to examine the physician's certificate again before acceptance.

e. Crews are not liable to take possession of the syringes/injection needles in-flight and should instead monitor situation and tender necessary assistance if required.

10.1.3 FLIGHT DECK SECURITY

10.1.3.1 POLICY

The cockpit door should be closed and locked immediately following the report from the FA1 that all passengers are on board and aircraft door closed. Except for crew entry/exit, the cockpit door should remain closed and locked until engine shutdown.

Authorized persons wishing to gain access to the cockpit should either make a routine access request using the cockpit door keypad or call on the interphone. They must then position in front of the cockpit door for identification. The Commander, when satisfied with the security status of the person and having checked the surrounding area using all available cameras, may authorize access to the cockpit using the toggle switch on the Cockpit Door Panel or Deadbolt as applicable. In normal and failure situations, as listed below, if the Commander is absent from the flight deck this responsibility is delegated to the PF.

10.1.3.2 MINIMUM PERSONS ON FLIGHT DECK

Whenever a pilot of a two-pilot operating crew leaves the Flight Deck, a member of the Cabin Crew shall enter the Flight Deck and remain there until the absent Flight Crew member returns. There is no requirement for a Cabin Crew member if a jump-seat passenger is a KA/CX Flight Crew or Cabin Crew holding a valid Emergency Procedures − Certificate of Competency.

10.1.3.3 UNSERVICEABLE COCKPIT DOOR SURVEILLANCE SYSTEM (CDSS)

An additional crewmember (who may be a riding engineer/loadmaster) must be carried on the jump seat for the entire flight. This person is to provide visual confirmation of the identity of persons wishing to gain access to the cockpit and to operate the deadbolt mechanism if required. Should the third crewmember need to leave the cockpit at any time after pushback, another crewmember must position to the cockpit in their absence.

10.1.3.4 UNSERVICEABLE CDLS (CDSS serviceable)

An additional crewmember or authorized person (iaw Part A 8.3.1.11, excluding children) must be carried on the jump seat for the entire flight to assist with deadbolt operation.

Should the jump seat person need to leave the cockpit at any time after pushback, a crewmember must position to the cockpit in their absence.

Prior to unlocking the cockpit door, the Commander will confirm the identity of the person wishing to gain access to the cockpit through the CDSS by using all available cameras. When satisfied, the Commander will instruct the jump seat person to unlatch and relatch the deadbolt mechanism.

In all cases, prior to the flight, jump seat passengers must be briefed on the use of oxygen, emergency equipment and emergency exits. They must also be briefed on the cockpit door, deadbolt locking systems and access procedures when relevant.

10.1.3.5 TRAFFIC DOCUMENT SATCHELS (FLIGHT SATCHEL)

No unauthorized items may be placed inside the Company flight documents satchels.

When all documents relating to the flight have been placed in the satchel it will be brought to the aircraft by the Ground Staff responsible, who will deliver it personally to the FA1. On receiving the satchel, the FA1 will check the contents to ensure that it does not contain unauthorized items.

10.1.4 CREW SECURITY

10.1.4.1 DRAGONAIR IDENTIFICATION CARDS (DRAGONAIR ID CARD) AND ICAO CREW MEMBER CERTIFICATE (CMC)

All Flight Crew whilst on duty, shall carry their Dragonair ID Card with them at all times. Flight Crew shall prominently display their ICAO CMC whilst on duty and at all Airport Immigration Entry and Exit points.

The loss of the Dragonair ID Card or ICAO CMC shall be reported immediately to the Police, Dragonair Security Department and Flight Crew Personnel Administration. A Lost Property Report shall be completed and a copy provided to Dragonair Security Department. See chapter 14 – General Crew Regulations & Administration

10.1.4.2 UNIFORMS

In the event that any Cockpit or Cabin Crew member loses any item of uniform in Hong Kong they must report the loss immediately to the police and the Manager Security. Whilst on flying duties, this must be reported to the Commander and local police authority, and referred to the Manager Security when the crew returns to Hong Kong.

10.1.4.3 CREW HOTEL AND TRANSPORTATION

Dragonair Security shall complete an assessment of the security procedures at the designated Crew Hotel and the general security situation in the surrounding area. When deemed necessary, Dragonair Security shall complete an assessment of the Crew Transportation and the selected route between the Airport and the Crew Hotel.

10.1.4.4 AIRPORT SECURITY SCREENING

All Flight Crew and their belongings shall be Security Screened in accordance with the State's (or Airport Authority) Security Program.

Hong Kong – Flight Crew operating Integrated Flight Patterns through HKG requiring an aircraft switch, shall disembark on the Arrivals Level and then proceed to the nearest Transfer Area for Security Screening. The Crew may then proceed up to the Departures Level to the assigned Departure Gate, for the next service. Flight Crew transferring from the Passenger Apron to the Cargo Apron in HKG are permitted to proceed directly to the outbound aircraft.

10.1.4.5 CREW BAGGAGE

In general, crew members will be responsible for the security of their own baggage. Crew baggage must not be left unattended in public places e.g. hotel lobbies and airport check-in area.

Suitcases etc, belonging to crew members should be locked before loading and should bear a baggage label showing the owner‟s name. If a crew member‟s baggage is delivered to the aircraft, it will not be loaded onto the aircraft until each item has been identified by the individual owner. If crew baggage has been delivered to the aircraft rather than being carried by its owner, or if it has been left unattended at any time and it does not bear an intact security seal, then the contents of the bags should be checked by the owner before the bags are loaded on the aircraft.

At outports, crew members are to ensure that their hand baggage and suitcases are locked and left in their hotel room until just prior to check-out.

No crew member will take sealed parcels or gifts on board the aircraft without the permission of the Commander. Last minute gifts or purchases such as food, cakes and fruit which are delivered to the aircraft are not to be accepted.

Crew members will not bring with them on a flight, baggage or sealed gifts on behalf of a third party. Apart from the legal and commercial implications, since crew baggage

generally receives only cursory security inspection, such items have been used to conceal weapons and narcotics without the crew member being aware of the fact. Contravention of this regulation will render a crew member liable to dismissal.

The Commander may at any time insist on any item of crew baggage being opened and searched.

Crew members must comply with the regulations governing the carriage of weapons and offensive articles.

Cabin Crew are advised that they should take all necessary measures to protect their personal property in-flight.

a. Lock handbags.

b. Place handbags in overhead lockers.

c. During rest period take valuables with you.

10.1.4.6 CREW HAND BAGGAGE

Crew and their hand baggage shall be screened to a standard sufficient to reasonably detect any Restricted Articles, before access to the Airport Restricted Area shall be granted.

10.1.4.7 CARRIAGE OF COMMERCIAL AND PERSONAL GOODS

Crew members are advised that the carriage of commercial goods through the crew channel is strictly forbidden, and that offenders are liable to prosecution under Hong Kong Airport Regulations CAP 292.

The only articles that aircrew are permitted to carry through the crew channel are personal effects and Company equipment or documents required for operation of the flight.

10.1.4.8 CUSTODY OF COMMERCIAL AND PERSONAL GOODS

Valuable Cargo and Articles belonging to individual passengers shall not be accepted for custody by Crew.

10.1.4.9 ACCESS TO RAMP

Cabin Crew may be required to access the apron from the aircraft, e.g. for catering replenishment. There are safety implications and therefore the following procedure must be actioned:

a. Permission must be sought from the aircraft Commander.

b. The precaution of wearing high visibility vests and ear protection are to be observed.

c. Cabin Crew must be escorted by ground personnel at all times on the ramp area.

d. FA1 should record the case in flight report.

10.1.5 PASSENGER SECURITY

10.1.5.1 NO-SHOW PASSENGERS AND PASSENGER BAGGAGE NON-CONCILIATION

A passenger headcount will be carried out by either the Cabin Crew or authorized ground staff and correlated against the check-in total. Any discrepancies must be reported to the Commander who will, decide upon the course of action to be taken.

If the disappearance of a transit passenger is confirmed, the aircraft Commander is to be informed and, at his discretion, all passengers will be required to disembark taking with them their hand baggage. The cabin and toilets will then be searched by the Cabin Crew. In the event of the location of any unclaimed baggage or suspicious articles, such items will be removed from the aircraft, but only after the Commander has been informed.

If the appearance of an additional passenger is confirmed, the aircraft Commander is to be informed and in consultation with the FA1 and authorized ground staff the additional passenger should be identified and/or the discrepancy resolved.

In the event of discovering that unauthorised hold baggage has been loaded on board:

After push back and prior to takeoff:

The Commander shall return the aircraft to the nearest available parking bay in order for the baggage to be offloaded.

After takeoff:

The relevant Airport Services Manager / Airport-in-charge is to contact IOC without delay, stating full details of what information is available at that time.

IOC will then alert management located in Hong Kong in order for the risk to be assessed. Risk assessors may include all or any of the Manager Security, General Manager Operations / Manager Line Operations or their alternates, Duty Operations Manager and Port Manager / Airport Services Manager / Airport-in-Charge.

Following an assessment of the risk the Commander will be advised on one of the following courses of action:

- Credible Risk – Divert the aircraft to port of origin or the nearest available airport.
- Low Risk – Flight may continue as scheduled.

10.1.5.2 PASSENGER OFFLOADING

Whenever a passenger is offloaded, the Commander must be informed.

If the offloaded passenger was physically on board prior to the offload the Commander will then advise the FA1 to complete the following additional security checks.

Search areas of the aircraft to which the passenger may have had access including:

a. Toilets

b. Seats and seat pockets two rows either side of the offloaded passengers seat.

c. Overhead lockers and other storage areas

Passengers seated within these two rows shall be asked to identify their hand baggage and any unclaimed baggage shall be offloaded accordingly.

10.1.5.3 PASSENGER HAND BAGGAGE

Before boarding the aircraft, all joining passengers will be required to undergo a search of hand baggage and a body check for weapons. This search will normally be carried out either at the boarding gate or at the entrance to a sterile departure lounge.

10.1.6 PASSENGERS WITH A SPECIAL SECURITY SIGNIFICANCE

The Commander/PIC shall be notified by the Passenger Information List (PIL) when any of the following categories of Passengers are carried:

- diplomats
- officials of International bodies having Diplomatic status (e.g. United Nations Assembly, UNESCO, IMF etc.)
- VIPs
- inadmissible (INAD) - A passenger who has been refused admission to a country by authorities of such country, and / or who is refused onward carriage by the onward carrier or government authority at a transfer point, e.g. due to lack of visa or valid travel documents.
- deportees – A passenger who had legally been admitted to a country by its authorities or who has entered a country illegally, and who at some time later is formally ordered by the authorities to be removed from the country.
- prisoners under escort
- passengers considered to be a special security risk.

10.1.6.1 DIPLOMATIC AGENTS AND BAGGAGE – EXEMPTIONS TO NORMAL SECURITY SCREENING

The Vienna Convention on Diplomatic Relations states:

1. a Diplomat shall be treated with great tact, since it would be contrary to the Convention to insist on searching their person or baggage. However, it would be reasonable to ask a Diplomat to agree to submit to the same security screening process as other passengers, and refuse their carriage unless they consent to a search of their person and baggage
2. if the Diplomat insists on taking hand baggage into the passenger compartment they shall permit (only if deemed necessary) an inspection for weapons or explosives. Confidential papers shall not be examined. If the Diplomat refuses a request for such a search, the hand baggage shall be carried in the Cargo Hold or the Diplomat off-loaded.

DIPLOMATIC COURIERS AND "CROSSED" DIPLOMATIC BAGS

Provisions under the Vienna Convention 1961, stipulate that properly documented Diplomatic baggage intended for carriage in the aircraft Cabin shall not be screened. Diplomatic bags shall be regarded as inviolable and the carriage by a Diplomatic Courier in the passenger compartment shall be allowed without hindrance. The Diplomatic Courier should have an Identity document issued by the State that they serve, signifying their status as a Diplomatic Courier.

Additionally, they should have in their possession a document detailing the number and Serial Numbers of the bags comprising the Diplomatic Baggage Consignment. "Crossed" Diplomatic bags; those containing classified materials, shall not be opened and searched under any circumstances. The Diplomatic Courier and their personal effects shall be subject to security screening.

If a Diplomatic Bag is considered suspicious, the Flight Crew shall request KA Security to contact the Deputy Director of Protocol (in Hong Kong) or the appropriate Embassy to confirm the validity of the Courier and their travel booking. If there is genuine doubt regarding the authenticity of the booking, or there are grounds for suspicion that the Diplomatic Bag may contain offensive weapons or explosives, the Commander/PIC may refuse to carry the bag unless it is subjected to X-ray examination.

10.1.6.2 CONSULS

The privileges accorded by the Vienna Convention to Diplomatic Agents do not extend to Consuls. However, it is considered appropriate to extend the same treatment as that recommended above for Diplomats and their baggage to the Head of any Foreign Consular Post in Hong Kong.

This does not apply to Honorary Consuls or to any member of the Consular Staff other than the “Head”. The Commissioner or Trade Commissioner of a Commonwealth country should be regarded as the Head of a Consular Post.

Consular bags are to be treated in similar manner to Diplomatic bags.

10.1.6.3 FAREWELL AND ARRIVAL CEREMONIES

Airport authorities often permit parties of officials to proceed to the aircraft to greet arriving or departing VIPs. All members of such parties should wear appropriate permits. Non-travelling members of the party should be requested not to board the aircraft and should not be permitted to pass security guards without being identified.

Airport Services Manager or Airport-in-charge will advise the Commander when deviations from standard security procedures are to be applied.

If in flight, the Commander suspects that a passenger claiming to be a diplomat is likely to endanger the safety of the aircraft, he should take whatever steps he may consider necessary to secure the safety of the aircraft and its passengers. In these circumstances, he should not allow any necessary action to be inhibited by the diplomatic status of the passenger.

10.1.7 PERSONS IN CUSTODY

10.1.7.1 CARRIAGE OF PERSONS IN CUSTODY

These may be deportees, prisoners, and persons under judicial or administrative procedures.

When under escort the following provisions are required :

a. A minimum of two escorts for each person in custody.

b. No carriage of firearm by escort.

c. The escort shall ensure that the person in custody does not carry any potentially dangerous item that could be used as a weapon.

d. Escorts are required to be equipped with adequate and sufficient restraining devices.

e. Escorted persons are to be boarded before other passengers and deplaned after all other passengers have left the aircraft.

f. Persons in custody and escorts are to be seated as far to the rear of the aircraft but not immediately adjacent to any exit door. The escort will be seated between the person in custody and the aisle.

g. Persons in custody will be accompanied at all times, including visits to the lavatory.

h. No intoxicating liquor shall be served to either persons in custody or escorts and plastic cutlery only will be issued with meal service.

i. The escort should have the ability to communicate with the person in custody.

The appropriate authorities SHOULD forewarn KA in advance of the carriage of persons in custody and under escort in order that appropriate seating arrangements can be made and to enable operating crew to be briefed.

Carriage of persons in custody will only be accepted if concurrence has been obtained in advance from the country of final destination that the person(s) in custody will be received.

Escorts are to be identified to a member of the Flight Deck Crew and the FA1 prior to boarding the aircraft.

Information shall be passed to the Commander/PIC and the FA1 prior to boarding the party.

If the passenger requires sedation prior to departure, each flight sector should last no longer than the effective duration of the administered sedative.

If circumstances dictate, advice should be sought from the Senior Medical Officer (Aviation Medicine). If doubt exists as to the adequacy of the proposed travel arrangements, the passenger should not be carried.

10.2 NON-NORMAL SECURITY PROCEDURES

10.2.1 GENERAL

Aviation security must be viewed as a systems approach wherein there are layers of protection with the aircraft being at the centre. However, there are still three major threats with which the crew may be faced.

These are:

a. **Unruly Passenger:** Unruly passenger incidents are on the rise. Although they are usually of limited threat some do escalate into more serious incidents. In all cases it is essential that both cabin and flight crew act in the most appropriate way to minimise the consequences of an act of unlawful interference.

b. **Bomb Warning:** A bomb warning is a serious incident that may have disastrous results. The vast majority are usually intended to cause a nuisance and prove to be hoaxes. However, they may indicate an act of terrorism or criminal intent. Any warning received must be assessed to determine its significance and the level of risk it represents in order that appropriate measures may be determined.

c. **Hijacking:** Such events can range from attempted hijacking to a September 11th situation. It is essential that the flight crew maintain the integrity of the flight deck and command of the aircraft at all cost; communicate with essential ground agencies and continue to fly the aircraft to the nearest suitable airport.

The following four-tier threat levels provide a useful reference that can be used to describe an ongoing incident in a way that facilitates the understanding of crew and ground personnel as to the seriousness of the on-board situation.

- Level 1 Disruptive Behaviour
  - Involves no violence e.g. abusive language to staff or other passengers, drunken behaviour, use of electronic devices and refusal to stop smoking etc.
- Level 2 Physically Abusive Behaviour
  - Involves violence against staff or other passengers or damage to company property e.g. fighting, assault etc.
- Level 3 Life Threatening Behaviour
  - Serious violence which might result in severe or fatal injuries or which appears to be a possible attempt to hijack the aircraft or the issuance of serious threats against the aircraft and/or crew.
- Level 4 Attempted Breach or Actual Breach of the Flight Deck
  - Unlawful interference with the aircraft i.e. actual hijacking or bombing etc.

The aim in most incidents will be to prevent the escalation of a Level 1 or 2 incident which is likely to be a non-terrorist threat into a more serious event. Dragonair has a 'zero-tolerance' policy against any passenger who is physically abusive to its staff.

10.2.2 UNRULY PASSENGERS

10.2.2.1 AUTHORITY OF THE AIRCRAFT COMMANDER/PIC

The Tokyo Convention of 1963 was introduced to Civil Aviation to ratify jurisdiction over what is often referred to as “Crime in the Air”. It assigns, by way of extended jurisdiction, the legal right of a State to apprehend, detain and punish offenders who commit crime in-flight. This right should be seen in the same context as if the crime was committed on the Sovereign Territory of the State of Registration of the aircraft upon which the crime is perpetrated.

The Aviation Security Ordinance (ASO) of the Laws of Hong Kong gives effect under Hong Kong law to the provisions contained in the Tokyo Convention. The ASO specifically states that any act or omission taking place on-board a Hong Kong controlled aircraft would constitute an offence under the law of Hong Kong.

In line with ICAO’s recommendation and to enhance the security of passengers and crews on international flights, the HK SAR Government has enacted the Aviation Security (Amendment) Ordinance 2005 which came into force on 10 November 2005. The Aviation Security (Amendment) Ordinance 2005 has added specifically seven offences relating to unruly or disruptive behaviour committed on board civil aircraft.

- Obstruction of crew members in performing their duties;
- Failure to comply with instructions given by crew members;
- Disorderly behaviour;
- Tampering or interfering with aircraft components, apparatus, equipment or systems;
- Intoxication by alcohol, drug or other intoxicating substances;
- Smoking in the aircraft when it is prohibited; and
- Operating electronic devices in the aircraft when it is prohibited.

In addition to the above and while the aircraft is in the territory of a state, the passengers and crew are required to comply with the legislation of that state.

10.2.2.2 ACTION BY THE AIRCRAFT COMMANDER/PIC

If the senior airport officer on duty accepts a passenger who is acting in any way that raises a security concern, he/she must confer with the Commander and FA1 to decide on the appropriate course of action given all the relevant information.

On occasion the behaviour of a passenger might deteriorate to an unacceptably low level between the time of aircraft boarding and aircraft push back. When this occurs the decision whether to carry the passenger or not rests with the Commander, who shall give serious consideration to the recommendation made by the FA1. If the passenger is to be offloaded the following procedures must be observed:

- The Commander or FA1 will inform the ramp co-ordinator or Senior Airport Officer on duty.
- The Senior Airport Officer on duty is to notify airport security or the appropriate local authority to stand by at the gate, if necessary, to offload the passenger.
- Offload the passenger’s baggage, and amendment is to be made to the relevant onboard documents.
- The Senior Airport Officer is to record the case in the Ground Handling Report and a Cabin Safety Report is to be raised by the FA1.

Whilst in-flight, the Commander is legally required to notify the local authorities concerned as soon as reasonably practicable of their intention to off-load any passenger from the flight and/or deliver such a passenger to the Local Authorities.

IOC should be informed of the Commander's decision and details of the incident and, if possible, signed Statements from at least three independent witnesses, preferably not Dragonair staff passengers, should be obtained.

The Statement/Report is included in the "SECURITY REPORTS, FORMS & CHECKLISTS" section of this manual.

The primary duty of the crew is to prevent any interference with the safe operation of the aircraft. Should an incident occur in the cabin during any phase of the flight, from passenger doors closed to engine shutdown, the flight crew must remain on the flight deck. The Commander or any other member of the flight deck crew should not become directly involved in the physical handling of any incident. A flight deck crew member shall immediately check and confirm that the flight deck door is CLOSED and LOCKED. Cabin crew are trained to deal with the unruly passenger situation and the use of passenger restraining devices.

The support that can be expected from ground services and security personnel at the point of landing will depend on local practice. Where required, the Manager Security or his designate can relay advice on what assistance to expect at each port to the Commander via IOC.

If required, officers/Manager from the Security Department will be available to meet any flight inbound to Hong Kong on which an unruly incident has occurred. Typically, where an offence has been committed the Hong Kong Police will also be called to meet the aircraft. At the outports, Dragonair ground staff, local security and / or police will be in attendance.

Whenever the Security team or police are requested to meet an aircraft, the Commander or the crew member(s) are required to follow-up with a Formal Complaint or Action.

The Security / Police Assistance Request form is included in the "SECURITY REPORTS, FORMS & CHECKLISTS" section of this manual.

10.2.2.3 UNRULY PASSENGERS IN FLIGHT

For the purposes of incident assessment and recording, unruly passengers are generally classified into one of the following three categories

- Violent – Actual or Threatened Violence
- Unruly – Breach of Aviation / Criminal Law
- Disruption – Any Other Unacceptable Behaviour

For the purposes of assessing the risk posed by incidents that occur in-flight operating crew will use the four-tier threat level alert to describe the seriousness of the situation.

- Level 1 – Disruptive behaviour;
- Level 2 – Physically abusive behaviour;
- Level 3 – Life threatening behaviour;
- Level 4 – Attempted breach of the flight deck

If a passenger is classified "unruly", the Dragonair Unruly Passenger Notification (Red Card) will be issued to the offending passenger by the FA1. Once this notification is delivered the Commander must be advised. The Commander will report the incident on the CAR, attention Line Ops / CSQ / SEC.

If the offending passenger continues to jeopardize good order and discipline on board (subject to discussion between Commander and FA1) then the Commander shall request that the Police meet the aircraft on arrival. Please be aware that although the notification states that the Police will be called the ultimate decision to do so remains with the Commander.

Should the Police need to be called an ACARS message will be sent to IOC using the following wordings:

OPS

UNRULY PAX

<nature of incident and number of passengers involved>

REQUEST POLICE TO MEET AIRCRAFT ON ARRIVAL

The crew can expect to receive acknowledgement from IOC.

10.2.2.4 PASSENGER RESTRAINT

Anytime the Commander considers that a passenger's behaviour jeopardises the safety of the aircraft or persons on board he should consider restraint. A passenger restrained should be handed to the police on arrival for detention and / or prosecution.

The Commander may consider the use of hand cuffs to restrain a passenger if his behaviour has become uncontrollable. A set of handcuffs and a key is kept in the L1 stowage compartment (A320/1) / L1 attendant seat (A330) / VCC compartment (A33C). When a passenger is restrained by hand cuffs, he should be kept under close supervision until he is handed over to the authorities. If possible he should be isolated from the other passengers but in no circumstances should he be permitted into the cockpit. Positioning near a door or emergency exit is also to be avoided. The Commander may also consider landing at the nearest suitable airport if there are a number of unruly passengers and their behaviour seriously affects the safety of the aircraft.

Pre-flight check of the handcuff kit is FA1's responsibility. He/She should ensure this equipment is in position.

10.2.2.5 ASSAULT ON CREW MEMBERS IN FLIGHT

Should an assault occur on a crew member in-flight; the crew should obtain the Names, Addresses and Seat Numbers of at least two passengers who witnessed the assault. Details such as Time, Location and the Sequence of Events should be recorded for future criminal proceedings.

The Commander must be informed of any incident and under the Aviation Security Ordinance and the Air Navigation (HK) Order has the power to control the offending passenger(s).

The crew member should advise the Commander whether he/she wishes charges to be laid against the person concerned and the Commander will pass this information to IOC and the Airport Services Manager / Manager on Duty at the destination.

The crew member concerned should be prepared to make a statement concerning the incident and identify the person(s) involved.

The Authorities will be responsible for deciding whether further action will be taken against the passenger concerned. The company will fully support the crew member's decision. However, it should be noted that in some countries there may be a problem with Jurisdiction for Offences committed on aircraft in-flight.

10.2.3 BOMB WARNINGS AND EXPLOSIVE DEVICES

10.2.3.1 INITIAL ACTION AND CATEGORISATION

Guidelines for the Ground Staff in the event a Bomb Warning Threat are contained in the Dragonair Security Programme.

Any information relating to a Bomb Warning Threat will be passed immediately to the Airport Services Manager/Manager on Duty. They will inform IOC of the threat, and IOC will activate the Bomb Warning/Security Threat Assessment Team. The Assessment Team comprises the General Manager Operations / Assistant General Manager Operations, Manager Security / Security Specialist, Duty Operations Manager (DOM), and Airport Services Manager / Airport-in-Charge concerned.

If the aircraft is “On the Ground” it MUST be held until the Assessment Team has evaluated the Level of Threat. Pending the outcome of the assessment, IOC will inform the Aircraft Commander of the precise nature of the threat and the Commander will then decide whether to disembark passengers or wait for the evaluation from the Assessment Team.

Threats are assessed using a Positive Target Identification (PTI) process and are classified into three categories.

"Green"

A warning that may not identify a target or specific group of targets, or which otherwise lacks credibility. Such a warning does not justify extra precautions.

"Amber"

A warning that can be related to one or more targets but where there is a doubt about its credibility or about the effectiveness of the existing countermeasures. Such a warning may involve danger and may require additional precautionary measures.

"Red"

A specific warning where the threat is of a nature which permits identification of a specific target, or where the caller has positively identified himself or the organisation involved and is judged to be credible. Such a warning is likely to involve danger to aircraft, people or airport activities and therefore merits specific countermeasures.

Warnings made against aircraft on the ground, if assessed as Red or Amber, may justify a variety of countermeasures including disembarkation of crew and passengers, offloading of cargo/baggage/mail, re-screening of passengers and cargo, security searches, etc.

The Bomb Threat Countermeasures Checklist is included in the "SECURITY REPORTS, FORMS & CHECKLISTS" section of this manual.

10.2.3.2 AIRCRAFT IN FLIGHT

In the event of an amber or red bomb warning assessment, a warning message will be passed to the Commander through IOC or ATC. Having alerted the Commander typically the immediate response will be to:

- Recall the aircraft to the departure airport; or
- Require the aircraft to divert to the nearest suitable airfield and land as soon as possible.

The content of the threat message will determine whether a search is required, as ordered by the Commander. If an in-flight search is required, cabin and flight deck search shall be conducted in accordance with the In-flight Bomb Search Checklist.

The In-flight Bomb Search Checklists are included in the "SECURITY REPORTS, FORMS & CHECKLISTS" section of this manual.

After landing, the aircraft will inevitably be parked in an area well away from the Terminal and other aircraft. The authorities at the airport of landing will arrange to have the aircraft searched. Passengers and crew should take all items of hand luggage with them. Once the passengers have been transported away from the aircraft, ask them to inspect their own hand luggage to ensure it has not been tampered with.

10.2.3.3 AIRCRAFT ON-THE-GROUND

In many cases, once alerted, the relevant State‟s security agency will conduct any search of an aircraft in accordance with their national aviation security programme. In cases where the local authorities are not involved the following procedures should apply.

It is necessary to vacate passengers from the cabin before searching the aircraft. An announcement should be made in such a manner that, as far as possible, only passengers concerned are informed.

Announcement to state:

“A message from an obvious hoaxer concerning your flight has been received. These messages have been received many times in the past by airlines. However, the Company has laid down a procedure for searching all aircraft and passengers‟ baggage, and which must be followed on these occasions. The Police will assist with this.”

Crew and passengers are to check their hand carry baggage for unidentified items when they are in the holding area.

The appropriate Airport Service Manager / Airport-in-charge will initiate a full search of the aircraft and will liaise with the Duty Engineer to designate a supervisor to carry out the search. The supervisor will typically be a Ground Engineer familiar with the aircraft type.

The search procedures have been planned using a team of five to nine searchers plus the Supervisor. The search team will normally consist of ground engineers familiar with the aircraft type supplemented by such cockpit and cabin crew who are considered suitable. It should be noted that at some stations, due to State regulations and industrial relations, it may be impractical to carry out these procedures exactly as specified and discretion may be required in their implementation. It is essential that a close liaison be maintained with the Airport Services Manager / Airport-in-Charge or senior Dragonair staff on-duty.

In allocating check cards, the Supervisor should consider the familiarity of the team member with the area to be searched. Cabin crew, if used, will normally only search the cabin area. Team members should be equipped with torches and where necessary, screwdrivers.

Before commencing the search, the supervisor will brief the search team on the following points:

- The purpose of the search is to locate, as far as possible, all objects that appear to be unusual or out of place in the normal aircraft surroundings. Points to be given particular attention include aerosol containers, electronic equipment, non-standard wiring.
- It is not the responsibility of the search team to confirm that such an object, if found, is an explosive, a weapon or an incendiary device, but simply that its presence on the aircraft gives cause for suspicion. On no account should a suspect object be touched or moved. The searcher should clearly mark its location with a cloth or a tie and immediately inform the Supervisor. If the Supervisor confirms that the object is suspicious then he will ensure that all personnel leave the vicinity of the aircraft and request the Airport Services Manager / Airport-in-Charge to advise the appropriate authorities.

- If a suspicious object is found, liaise with the authorities to determine whether the search should be continued once the object has been made safe.
- The internationally accepted search procedure is to search from the outside of the area towards the centre. This ensures that in the event of an incident, the shortest escape route is always clear.

WARNING: DEALING WITH AN EXPLOSIVE DEVICE REQUIRES SPECIALIST TRAINING. DO NOT ATTEMPT TO MOVE OR DEFUSE ANY SUSPICIOUS OBJECT.

The Supervisor should arrange a signal to be used to recall the search team if necessary and should be aware of the location of each member of the team during the search. At the completion of the search each member of the search team should report the results of the search to the Supervisor.

The Supervisor should ensure that the vicinity of the aircraft is kept clear of all authorized personnel and vehicles for a radius of at least 200 metres until the search is complete.

The search team shall conduct the search in accordance with the Security Search Checklist.

The Security Search Checklist is included in the "SECURITY REPORTS, FORMS & CHECKLISTS" section of this manual.

After the initial search, all containers / cabinets are to be left open and all waste bins are to be emptied and fitted with new plastic bags. After the Commander is satisfied that the search has been completed satisfactorily he will authorise the closing of tall compartments and containers.

10.2.3.4 SUSPICIOUS EXPLOSIVE DEVICES

If a suspicious object is found during the flight, the Commander may descend to equalise the pressure between the cabin and the exterior. All non-essential electrical power should be switch off.

Remember to keep calm or else you will start a panic. Do not move anything which appears suspicious. Use blankets, pillows and soft baggage to cover and secure the suspicious item in the attitude in which it was found. Move passengers at least 4 seat rows away from the suspicious item. If other seats are full these passengers should sit on the floor in protected areas. Passengers near the suspicious item should protect their heads with pillows, blankets etc and sit in the brace position. All passengers must remain seated with seat belts fastened and if possible, position their heads below the top of the head rest.

When the aircraft is on ground do not use cabin doors in the vicinity of the suspicious item for disembarkation of passengers. Use all available airport facilities to disembark without delay. If use of escape slides is deemed necessary, the emergency exits on the side of the suspicious item should not be used. Should the slides be used, crew should follow the evacuation procedures.

The Suspected Bomb on Board Checklist is included in the "SECURITY REPORTS, FORMS & CHECKLISTS" section of this manual.

10.2.3.5 PUBLICITY

It should be borne in mind that publishing bomb warning incidents through the Media can be counter-productive. Any Press or Media inquiries regarding such an incident should be referred to the Head of Corporate Communication.

10.2.4 HIJACKING AND UNLAWFUL INTERFERENCE

10.2.4.1 INTRODUCTION

In the event of an incident onboard a Dragonair aircraft it is assumed that the situation may develop into a worst-case scenario. In order to alert the cockpit that they are under duress, Crew member have been instructed to attempt to use the intercom or emergency call and say "I must come to the cockpit immediately". The primary aim must be to keep the hijackers out of the flight deck at all costs. The primary responsibility of the cockpit crew is to land the aircraft at the nearest suitable airfield. The cabin crew will be expected to deal with the situation without the direct involvement of the cockpit crew.

10.2.4.2 DETERMINATION OF THE SERIOUSNESS OF AN ACT OF UNLAWFUL INTERFERENCE

For the purposes of assessing the risk posed by incidents that occur in-flight operating crew will use the four-tier threat level alert to describe the seriousness of the situation.

- Level 1 – Disruptive behaviour;
- Level 2 – Physically abusive behaviour;
- Level 3 – Life threatening behaviour;
- Level 4 – Attempted breach of the flight deck

10.2.4.3 ABLE-BODIED PASSENGERS (ABPs)

ABPs are those passengers who are clearly physically able and can be used to assist in dealing with a disruptive passenger. Cabin crew should attempt to identify ABPs during passenger boarding but should only alert the ABPs in time of need. ABPs ideally are deadheading uniformed crew, non-revenue passengers e.g.. airline staff traveling on ID tickets and government law enforcement officers who can identify themselves.

10.2.4.4 SECURITY OF THE FLIGHT CREW COMPARTMENT

The flight deck door is to remain closed and locked from the point at which the external passenger doors of the aircraft are closed before departure until the doors are opened after landing. Procedures are in place for allowing traffic to and from the flight deck during flight.

In the event of any incident in the cabin during the flight the FA1 should establish communication with the flight deck and give details of the incident. In the event that the cabin crew are under duress they should:

- Attempt to use the emergency call facility on the interphone
- When contact is established use the expression "I must come to the cockpit immediately" to indicate that this is a Level 3 or Level 4 incident.

In normal operations the presence of passengers in the area of the flight deck door should be discouraged apart from when the forward lavatory(ies) is being used. The area in front of the flight crew compartment door (including lavatories and the gallery) is to be considered as a 'Clear Zone' during any onboard disturbance.

During any disturbance no passengers should be permitted in the 'Clear Zone' except ABPs if they are physically assisting the cabin crew to prevent an attempted intrusion into the flight deck or assisting the crew with disruptive passengers If an incident appears to advance to Level 3 or 4 the 'Clear Zone' should be immediately activated and the following actions taken:

- Passengers should be in their seats
- A galley cart should be placed in front of the flight deck door

- ABPs may be requested to block the area of the flight deck door

10.2.4.5 HIJACKING

Differentiation between "an ongoing attempted hijacking" and a "hijacking" is a most important distinction as regards the external response. It is essential that the flight crew clarify this distinction with ATC due to the potential difference in response and resultant risk variables to all on board the aircraft. The following definitions apply:

- "Ongoing Attempted Hijacking" – The flight crew are still in control of the aircraft.
- "Hijacking" or "Hijacked" – the hijackers are in control of the aircraft.

10.2.4.6 CREW COMMUNICATION

In an unruly passenger situation or other safety or security problem in the cabin the cabin, crew will be expected to analyse and assess situations based on their own experience. The cockpit crew's ability to leave the flight deck and enter the cabin is limited and in unlawful interference incidents when airborne the cockpit crew are not to enter the cabin. The cabin crew must therefore be prepared to handle all disturbances in the cabin without the direct assistance of the flight crew. Any crewmember must be prepared to use their initiative to keep the cockpit crew informed of what is happening in the cabin especially if the FA1 is dealing with the incident

10.2.4.7 CREW RESPONSE – GENERAL

Early recognition of a threat, intervention and removal whilst at the boarding gate can prevent a serious on-board incident. Cabin crew should observe the passengers as they board the aircraft and be prepared to deal with any difficult passengers whilst still on the ground. At this stage it is still possible for the flight crew to support the cabin crew.

The crew response should be appropriate to the level of threat. Each escalation in threat level calls for escalating responses. The following lists can be adapted for use at the gate or on the ground:

Level 1 Threat – Disruptive Behaviour (Suspicious or threatening)

a. FA1 communicates with flight crew and other cabin crew

b. Be attentive for other activity within the passenger population in the event that a level 1 threat is a diversion to cover hijacking.

c. Attempt to defuse the situation verbally.

d. Issue Unruly Passenger Notification ('Red Card') if appropriate - see Part A para 10.2.2.3.

e. Commander to consider an announcement from the flight deck.

f. Commander and FA1 to file written report

Level 2 Threat – Physically Abusive Behaviour

Cabin Crew:

a. Suspend all in-flight services

b. Use separation techniques

c. FA1 communicates with flight crew and other cabin crew

d. Be attentive for other activity within the passenger population in the event that a level 2 threat is a diversion to cover hijacking.

e. Suspend traffic in Clear Zone. Consider blocking with crew and enlisting assistance of ABPs

Flight Deck Crew:

f. Commander should advise ATC and the airline and request that the appropriate law enforcement agency meet the aircraft

g. Commander to consider making announcement from the flight deck

h. Commander should consider a diversion and landing plan in case the incident escalates to a higher level

i. Solicit help from cabin crew and passengers

j. Commander and FA1 to file written report

Level 3 Threat – Life Threatening Behaviour

Cabin Crew:

a. Suspend all in-flight services

b. FA1 communicates with flight crew and other cabin crew

c. Suspend traffic in Clear Zone and block with ABPs and galley carts

d. Initiate Lockdown of flight deck

e. Solicit all available help from cabin crew and passengers

f. Cabin crew provide information regarding perpetrators to commander

g. Use restraints and other on-board devices

h. If necessary implement least-risk bomb location or chemical/biological weapon (CBW) procedures

Flight Deck Crew:

i. Commander will declare an emergency and will consider diverting to the nearest suitable airfield

j. Squawk appropriate transponder code and initiate the ACARS hijack message.

k. Send ACARS message to CX IOC with details of the event in progress

l. Prepare for possible rapid descent

m. Monitor 121.5 and prepare for interception by military aircraft

n. Lock the cockpit door using the dead bolt.

o. After landing, push the fire switches and disconnect the IDGs.

Level 4 Threat – Attempted Breach or Actual Breach of Flight Deck

Cabin Crew:

a. Maintain aircraft command and control at all costs.

b. Suspend all in-flight services.

c. FA1 communicates with flight crew and other cabin crew.

d. Suspend traffic in Clear Zone and block with ABPs and galley carts.

e. Initiate Lockdown of flight deck.

f. Solicit help via PA system from cabin crew and passengers.

g. Defend flight deck using whatever force is necessary to eliminate the threat.

h. Use force and all available resources to subdue assailants.

i. Use restraints and other on-board devices.

Flight Deck Crew:

j. Commander will declare an emergency and will divert to the nearest suitable airfield.

k. Squawk appropriate transponder code and initiate the ACARS hijack message.

l. Send ACARS message to CX IOC with details of the event in progress.

m. Monitor 121.5 and prepare for interception by military aircraft.

n. Lock the cockpit door using the dead bolt.

o. After landing, push the fire switches and disconnect the IDGs. If appropriate escape from the aircraft.

During an incident the ultimate goal, except for the perpetrators, is the survival of all on board. The purpose of the flight deck lockdown procedure, is to ensure that control of the aircraft is maintained thus providing protection for those on board and on the ground

LOCKDOWN is defined as the point from which there is to be no further traffic in or out of the flight deck for the remainder of the flight.

10.2.4.8 CABIN CREW RESPONSE – TACTICAL

The cabin crew must protect the integrity of the flight deck and use any measures and available resources to thwart any attempted hijack and to save lives in the passenger cabin

At the first indication of an incident the FA1 should initiate lockdown of the flight deck. If it is likely the incident may escalate to a Level 3 or 4 incident the Clear Zone should be immediately activated, passengers should be in their seats, a bar cart placed in front of the flight deck door and ABPs should be requested to block the flight deck compartment area.

If ABPs are called upon for assistance the cabin crew must always retain control. Cabin crew may need to be verbally assertive to re-establish control of the cabin following the closure of an incident.

10.2.4.9 CABIN/FLIGHT CREW COMMUNICATION DURING AN ACT OF UNLAWFUL INTERFERENCE

Whilst the primary spokesperson in the cabin is the FA1 it would be useful to have a cabin crew designated as the ‘secondary spokesperson’. Inevitably the senior cabin crew will be drawn into the incident and will perhaps lose awareness of the broader cabin situation. The ‘secondary spokesperson’ can stay removed from the event thus ensuring that an incident does not draw all the cabin crew into the net.

In any developing incident the flight deck crew should be notified of the type and level of the threat; the number of perpetrators, any weapons, assigned seat numbers and physical descriptions of the perpetrators.

The importance of communication on board, air-to-ground, ground-to-air or air-to-air cannot be over emphasised.

10.2.4.10 APPROPRIATE SELF-DEFENCE RESPONSES

A most important aspect of self-defense is intuition. A strong intuitive reaction to a passenger should always be handled in accordance with the standard response to a safety concern: Observe, Investigate and Communicate. Substantiate by continued observation of behaviour and by initiating conversation to validate or dispel concern about a particular individual or individuals. Note particularly signs of anxiety, nervousness, hostility or cold unresponsiveness. This awareness should commence during boarding as it is far better to deal with a problem whilst still on the ground.

If a cabin crewmember feels uneasy vigilance should be increased. The FA1 should

be informed, the passenger should be kept under discreet observation and ABPs in the vicinity should be identified.

Cabin crewmembers should always be observant of passengers. Heightened crew awareness and ongoing surveillance of the cabin to detect suspicious behaviour or objects is an important self-defense mechanism. EXPECT THE UNEXPECTED.

Cabin crew should routinely note the location of ABPs and continue to evaluate them. Off duty crew are particularly useful as ABPs.

10.2.4.11 USE OF NON-LETHAL PROTECTIVE DEVICES

Dragonair is not authorised to use non-lethal protective devices such as stun-guns or pepper-sprays.

Cabin crew should be aware that normal on-board equipment such as fire extinguishers may be used as defensive tools in Level 3 or 4 incidents however their use must be carefully considered. Additionally PBEs can be useful if irritant substances are being used to disable cabin crewmembers.

The fire axe is available to the flight deck crew if the flight deck is penetrated by the perpetrators. However, remember it is also a potential weapon for the attackers if not retained.

10.2.4.12 FLIGHT CREW COMPARTMENT PROCEDURES TO PROTECT THE AEROPLANE

The ultimate responsibility of the Commander is to protect the lives of the passengers and crew. All crew have to balance the risk of loss of life in the cabin against the possibility of the aircraft being shot down or deliberately flown into a populated area. ***Therefore under no circumstances should the flight deck door be opened during a security threat situation on board.***

In addition, a pilot should never leave the flight deck to assist the cabin staff even for apparently minor cabin disturbances. An unruly passenger incident could be a diversionary tactic to draw the pilots from the flight deck and the cabin staff to a distant part of the cabin.

The use of over-aggressive aircraft manoeuvres are not recommended nor is depressurisation of the aircraft.

Flight Deck crews should be aware of the ICAO standard interception signals and procedures. (Vol. 5 Flight Supplement - Emergency Section).

Once a hijacked aircraft is on the ground it is imperative that it remains on the ground. The flight deck is to remain in lockdown mode until it is confirmed with absolute certainty that the incident is over. Keeping the hijacker out of the flight deck ensures that communications are controlled by the crew. The situation remains an “attempted hijacking” and not a “hijack”.

The flight deck crew should consider whether to remain on the aircraft or to escape. Upon balancing the various aspects of the threat situation, the commander may judge, in the best interest of the passengers, crew and others, that he escape from the aircraft. This will generally place the passengers and remaining crew in a more controlled and therefore more manageable situation.

The crew must understand that “it’s not over until it’s over”. During and immediately following disembarkation all persons on board the aircraft (including uniformed crew due to the possibility of forced clothing exchange) will be considered as potential perpetrators. The crew can expect to be treated at the end of the incident with the same level of suspicion as all other occupants of the aircraft. All crew are to set a good example of cooperation and support of these post incident measures.

10.2.4.13 COMMUNICATION WITH IOC

If possible, an ACARS "75 MSG" (Hijack Alert) should be sent to IOC. IOC will respond with the message "From IOC, Confirm Speed, PLS ACK". If the 75 MSG is

unintentional, the Flight Crew shall reply "KA### Ops Normal - H75 Error".

If IOC receives no response, Hijack Procedures will be initiated. If CPDLC communications are in use, transmit an EMERGENCY REPORT (refer Part A 8.3.13.2 CPDLC – Emergency Procedures).

10.2.5 SECURITY REPORTS, FORMS & CHECKLISTS

10.2.5.1 STATUS ALERT ACTION LISTS

(black and white colours only for better resolution)

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

GREEN ALERT CARD

Hold Baggage Screening & Questioning

1a. Hold baggage shall be security screened to detect a restricted article. Screening shall be conducted by use of any or a combination of the following, in order of preference:-

- Explosive Detection System X-ray (e.g. CTX & VIVID);
- Conventional X-ray; and/or
- Hand Search;
- Other technical explosives detection systems (Trace and Vapour Detection Systems) may be used to supplement the security screening.

1b. If for any reason screening is considered impracticable, not less than 10% of hold baggage shall be randomly selected and subjected to physical hand search prior to acceptance. Security questions listed below should be asked to all passengers. Screening (hand search) shall be applied if answers to any of the questions are incorrect.

- Is this your bag?
- Did you pack it yourself?
- Does your bag contain any item(s) that you are carrying on behalf of someone else?
- Could anyone have put anything into it since you packed it?
- Does it contain any electrical or electronic items?

Hold Baggage Protection

2. After acceptance, hold baggage is to be protected from unlawful interference.

Passenger and Hand Baggage Screening

3. Passengers and their hand baggage are to be screened to detect a restricted article.

Reconciliation of Passengers with Hold Baggage

4. When a passenger has checked in hold baggage, a check is to be made to ensure that the same person subsequently boards the aircraft.

5. If any passenger does not board the aircraft, his/her baggage is not to be transported on that flight unless the baggage is subsequently screened. (If conventional X-ray is used the baggage is to be viewed from at least two angles.)

~ RESTRICTED ~
Page 1 of 3

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

GREEN ALERT CARD

Group Passengers

6. All passengers must be matched with their bags. The check-in of Group hold baggage will only be permitted provided (1) the group leader travels with the group on the same flight, (2) the group leader must account for all bags in the group and verify that the bags belong to group members, and (3) each item of baggage must bear the name of the group passenger. If any one passenger of the group does not board the flight all baggage checked in under the group is not to be transported on the flight unless the baggage is subsequently screened. (If conventional X-ray is used the baggage is to be screened from at least two angles.)

Protection of Aircraft

7. Aircraft are to be secured to prevent and detect unauthorised access.

Aircraft Pre-Flight Security Checks

8. At departure points, and at transit stops where any passengers ends their journey and disembarks, the crew, security staff, or other suitably trained staff are to undertake pre-flight security checks on aircraft.

Transfer Passengers and Baggage

9. Measures 1-5 as appropriate shall be applied in respect of all transfer passengers and their baggage.

Rush Baggage

10. Rush baggage is to be screened to ensure that it does not contain any prohibited item that may hazard the security of the aircraft. The 'history' of the bag shall be established before it is loaded.

Transit Passengers and Baggage

11a. Passengers who elect to disembark must take all hand baggage.

11b. Passengers who remain on board must account for all of their hand baggage during cabin crew security check.

11c. If any transit passenger fails to re-board, the passengers' bags are to be removed from the flight. After removal, the baggage is not to be transported on that flight.

RESTRICTED ~
Page 2 of 3

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

GREEN ALERT CARD

Passenger Segregation

12. After pre-departure screening, departing passengers are not to mix with arriving passengers.

Control of Access

13. Access to areas where airline operations are undertaken is to be controlled.

Catering and Other Aircraft Supplies

14. Catering and aircraft supplies are to be prepared in premises subjected to security controls and are to be protected from unlawful interference.

Cargo, Mail and Courier Traffic

15a. The Regulated Agent Regime, Known Consignor, or equivalent shall be applied to cargo, mail and courier traffic transported under an air waybill.

15b. Cargo, mail and courier traffic from all other sources are to be subjected to any or a combination of the following security measures:-

- X-ray;
- Hand Search;
- Decompression;
- Holding period equivalent to the flight time plus 2 hours (12 hours minimum); and/or
- Any other security screening equipment approved by Manager Security.

15c. Security screening measures need not be applied to transfer cargo, mail and courier traffic.

15d. Cargo, mail and courier traffic are to be protected from unlawful interference when it is in the custody of Dragonair or its agents.

15e. Personal effects transported as cargo are to be subjected to screening.

Baggage Tags and Boarding Cards

16. Maximum security is to be given to these items. No tags etc. to be left unattended at counters or baggage areas.

RESTRICTED ~
Page 3 of 3

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

AMBER ALERT CARD

Hold Baggage Screening & Questioning

1a. Hold baggage shall be security screened to detect a restricted article. Screening shall be conducted by use of any or a combination of the following, in order of preference:-

- Explosive Detection System X-ray (e.g. CTX & VIVID);
- Conventional X-ray; and/or
- Hand Search;
- Other technical explosives detection systems (Trace and Vapour Detection Systems) may be used to supplement the security screening.

1b. Where baggage is screened by means of conventional x-ray not less than 15% of hold baggage shall be subject to a supplementary Hand Search performed at Check In.

1c. If for any reason screening is considered impracticable, not less than **20%** of hold baggage shall be subject to physical hand search prior to acceptance. Security questions listed below should be asked to all passengers. Screening (hand search) shall be applied if answers to any of the questions are incorrect.

- Is this your bag?
- Did you pack it yourself?
- Does your bag contain any item(s) that you are carrying on behalf of someone else?
- Could anyone have put anything into it since you packed it?
- Does it contain any electrical or electronic items?

Hold Baggage Protection

2. After acceptance, hold baggage is to be protected from unlawful interference.

Passenger and Hand Baggage Screening

3a. Passengers and their hand baggage are to be screened to detect a restricted article.

3b. Wherever practicable, additional random searches shall be imposed.

Reconciliation of Passengers with Hold Baggage

4. When a passenger has checked in hold baggage, a check is to be made to ensure that the same person subsequently boards the aircraft.

~ RESTRICTED ~
Page 1 of 4

DRAGONAIR 港龍航空

AMBER ALERT CARD

5. If any passenger does not board the aircraft, his/her baggage is not to be transported on that flight unless the baggage is subsequently screened. (If conventional X-ray is used the baggage is to be viewed from at least two angles.)

Group Baggage

6a. Group check-in may only be conducted **if** security screening makes use of an Explosive Detection System X-ray (e.g. CTX & VIVID).

6b. All passengers must be matched with their bags. The check-in of Group hold baggage will only be permitted provided (1) the group leader travels with the group on the same flight, (2) the group leader must account for all bags in the group and verify that the bags belong to group members, and (3) each item of baggage must bear the name of the group passenger. If any one passenger of the group does not board the flight all baggage checked in under the group is not to be transported on the flight unless the baggage is subsequently screened by the Explosive Detection System X-ray.

Aircraft Pre-Flight Security Checks

7. At departure points, and at transit stops where any passengers ends their journey and disembarks, the crew, security staff, or other suitably trained staff are to undertake pre-flight security checks on aircraft.

Transfer Passengers and Baggage

8. Measures 1-5 as appropriate shall be applied in respect of all Transfer Passengers and their baggage.

Rush Baggage

9. Rush baggage is to be screened to ensure that it does not contain any prohibited item that may hazard the security of the aircraft. The 'history' of the bag shall be established before it is loaded.

Transit Passengers and Baggage

10a. Passengers who elect to disembark must take all hand baggage.

10b. Passengers who remain on board must account for all of their hand baggage during cabin crew security check.

10c. If any transit passenger fails to reboard, the passengers' bags are to be removed from the flight. After removal, the baggage is not to be transported on that flight.

~ RESTRICTED ~
Page 2 of 4

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

AMBER ALERT CARD

Passenger Segregation

11. After pre-departure screening, departing passengers are not to mix with arriving passengers.

Control of Access and Aircraft Protection

12a. During aircraft turnaround access to the aircraft cabin and to the cargo holds shall be controlled and monitored by KA ground staff and / or security guards.

12b. All authorised personnel seeking to access the aircraft (KA ground staff, aircrew, caterers, cleaners, etc) shall display a valid airport ID.

12c. Aircraft remaining on the ground overnight shall be secured by means of closing the aircraft doors and cargo holds and by removing the aircraft steps. Unattended aircraft shall be further secured by means of tamper evident security seals.

Catering and Other Aircraft Supplies

13a. Catering and aircraft supplies are to be prepared in premises subjected to security controls and are to be protected from unlawful interference.

13b. Catering carts shall be sealed before being transported to the aircraft.

Cargo, Mail and Courier Traffic

14a. The Regulated Agent Regime, Known Consignor, or equivalent shall be applied to cargo, mail and courier traffic transported under an air waybill.

14b. Cargo, mail and courier traffic from all other sources are to be subjected to any or a combination of the following security measures:-

- X-ray;
- Hand Search;
- Decompression;
- Holding period of **24** hours; and/or
- Any other security equipment approved by Manager Security.

14c. Security screening measures need not be applied to transfer cargo, mail and courier traffic.

14d. Cargo, mail and courier traffic are to be protected from unlawful interference when it is in the custody of Dragonair or its agents.

~ RESTRICTED ~
Page 3 of 4

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

AMBER ALERT CARD

14e. Personal effects transported as cargo are to be subjected to screening.

Baggage Tags and Boarding Cards

15. Maximum security is to be given to these items. No tags etc. To be left unattended **at** counters or baggage areas.

Any requirement under this "AMBER ALERT CARD" which is not implemented, or cannot be implemented due to constraints beyond Dragonair's control, must be made known to the Manager Security and approval sought for dispensation.

~ RESTRICTED ~
Page 4 of 4

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

RED ALERT CARD

Hold Baggage Screening & Questioning

1a. Hold baggage shall be security screened to detect a restricted article. Screening shall be conducted by use of any or a combination of the following, in order of preference:

- Explosive Detection System X-ray (e.g. CTX & VIVID);
- Conventional X-ray; and/or
- Hand Search;
- Other technical explosives detection systems (Trace and Vapour Detection Systems); may be used to supplement the security screening.

1b. Where baggage is screened by means of conventional x-ray not less than 25% of hold baggage shall be subject to a supplementary hand search at Check In.

1c. If no screening equipment is available then not less than 35% of hold baggage shall be subjected to hand search at Check In.

1d. All passengers must be asked the following security questions. If the answers are incorrect then additional screening measures (e.g. hand search) shall be applied.

- Is this your bag?
- Did you pack it yourself?
- Does your bag contain any item(s) that you are carrying on behalf of someone else?
- Could anyone have put anything into it since you packed it?
- Does it contain any electrical or electronic items?

Hold Baggage Protection

2. After acceptance, hold baggage is to be protected from unlawful interference.

Passenger and Hand Baggage Screening

3a. Passengers and their hand baggage are to be screened to a standard sufficient reasonably to detect a restricted article.

3b. At the boarding gate, passport/boarding pass reconciliation shall be conducted.

3c. At the boarding gate passengers and their hand baggage shall be selected at random to undergo supplementary screening by means of hand held metal detector and physical inspection.

~ RESTRICTED ~
Page 1 of 5

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

RED ALERT CARD

Reconciliation of Passengers with Hold Baggage

4. When a passenger has checked in baggage, a check is to be made to ensure that the same person subsequently boards the aircraft.

5. If any passenger does not board the aircraft, his/her baggage is not to be transported on that flight.

Group Baggage

6. All passengers must be matched with their bags, no consolidated check in by a group leader.

Aircraft Pre-Flight Security Checks

7. At departure points, and at transit stops where any passengers ends their journey and disembarks, the crew, security staff, or other suitably trained staff are to undertake pre-flight security checks on aircraft.

Transfer Passengers and Baggage

8. Measures 1-5 as appropriate shall be applied in respect of all Transfer Passengers and their baggage.

Rush Baggage

9. Courtesy interline rush baggage is not to be accepted. Only mishandled Dragonair bags are to be transported after security screening to ensure that it does not contain any prohibited item which may inhibit the security of the aircraft.

Diplomatic Baggage

10. Consent to x-ray is to be sought. If consent is not obtained, given bag will only be transported with a bona fide member of embassy staff.

Transit Passengers and Baggage

11. All transit passengers are to remain on board and take custody of their own hand baggage during cabin crew security check.

Passenger Segregation

12. After pre-departure screening, departing passengers are not to mix with arriving passengers.

~ RESTRICTED ~
Page 2 of 5

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

RED ALERT CARD

Control of Access and Aircraft Protection

13a. Aircraft shall not remain unattended at any time.

13b. During aircraft turnaround access to the aircraft cabin and to the cargo holds shall be controlled and monitored by security guards. One security guard shall deploy to each airbridge / steps in use for cabin access. In addition at least one security guard shall patrol on the ramp.

13c. All authorised personnel seeking to access the aircraft (KA ground staff, aircrew, caterers, cleaners, etc) shall display a valid airport ID for visual check by security.

13d. All authorised service personnel (non-KA) shall undergo security checks (hand search or equivalent at the aircraft door / aircraft steps and at the cargo holds before being allowed access. All equipment to be inspected by security.

13e. Aircraft remaining on the ground overnight shall be secured by means of closing the aircraft doors and cargo holds and by removing the aircraft steps. Two security guards shall remain on the ramp at all times while the aircraft is parked.

Catering and Other Aircraft Supplies

14a. All catering is to undergo security controls prior to being placed on the aircraft. Catering supplies shall be prepared in secured premises. Catering carts shall be sealed before being transported to the aircraft.

14b. Catering uplift shall proceed only once a KA representative is on board the aircraft.

Cargo Traffic

15a. The Regulated Agent Regime, Known Consignor, or equivalent will not be applicable with the exception of that outlined under 15d.

15b. Cargo traffic is to be subjected to any or a combination of the following security measures:-

- X-ray;
- Hand Search;
- Decompression;
- Holding period of 24hours; and/or
- Any other security screening equipment approved by Head of Security.

~ RESTRICTED ~
Page 3 of 5

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

RED ALERT CARD

15c. Online transfer cargo will not be affected as it is assumed the above condition has been met.

15d. If security measures as stipulated in 15b are not undertaken, live animals, valuable cargo and time sensitive shipments such as news items, press releases and newspaper are only to be accepted from consignors who:

(i) are known to the airline: that is an individual or company that has been identified and has a permanent address;
(ii) undertake to safeguard cargo traffic from unlawful interference while it is in their custody, and sign a certificate to that effect.

15e. Cargo traffic is to be protected from unlawful interference when it is in the custody of airlines or their agents.

15f. Personal effects transported as cargo are to be subjected to screening.

Mail Traffic

16a. Dragonair OCS mail of letters / coupons are only to be accepted and they must be screened. Exemption must be authorised by the Manager Security.

16b. Interline OCS mail of letters can only be accepted for those carriers who have existing agreement with Dragonair. All interline OCS mail shall be screened by x-ray.

16c. Speedpost and letter mail are to be screened. If time is insufficient, staff should liaise with GPO to bring forward the cut off times.

16d. Parcel post is to be screened. This is preferably taken place at the local GPO and written confirmation is received prior to any dispatch.

Courier Traffic

17. Courier traffic is to be screened.

Travel Documents

18. Check in staff are to scrutinise travel documents and tickets thoroughly.

~ RESTRICTED ~
Page 4 of 5

RESTRICTED

HONG KONG DRAGON AIRLINES LTD.
Security Programme

Appendix 1 to Section 16
Green, Amber, Red Alert Cards

DRAGONAIR 港龍航空

RED ALERT CARD

Baggage Tags and Boarding Cards

19. Maximum security is to be given to these items. No tags etc. are to be left unattended at counters or baggage areas.

Deportees

20. Approval for carriage of deportees must be obtained from the Manager Security or his designate before acceptance.

Any requirement under this "RED ALERT CARD" which is not implemented, or cannot be implemented due to constraints beyond Dragonair's control, must be made known to the Manager Security and approval sought for dispensation.

~ RESTRICTED ~
Page 5 of 5

10.2.5.2 UNRULY PASSENGER STATEMENT/REPORT FORM

STATEMENT FORM

Flight No. _____ Sector From: _____ To: _____ Date: _____

Aircraft Position: _____ Time of Incident: _____ Aircraft Registration: _____

Name of Captain/Emp No _____ Name of FA 1 / Emp No _____

Provide details of any witnesses and have them complete and sign a separate statement form if applicable

Name of Witness: _____

Seat No.: _____ Sex: _____ Passport/HK ID No: _____

Address: _____

_____

_____

Telephone No: _____ MPO/FFP No: _____

Email Address: _____ Nationality: _____

Name of Witness: _____

Seat No.: _____ Sex: _____ Passport/HK ID No: _____

Address: _____

_____

_____

Telephone No: _____ MPO/FFP No: _____

Email Address: _____ Nationality: _____

Details of Unruly Passenger

First Name: _____ Last Name: _____

Seat No.: _____ Sex: _____ Passport/HK ID No: _____

Address: _____

_____

_____

Telephone No: _____ MPO/FFP No: _____ Date of Birth: _____

Email Address: _____ Nationality: _____

Details of the incident:

Page 1 of 2

Details of the incident continued....

Captain's Signature: _____

Cabin Crew's Signature: _____

Complete this section if a witness to the incident has completed this statement form.

Witness Signature: _____

*Please use a separate statement form if more space is required and attach to the original statement form. Page 2 of 2

10.2.5.3 SECURITY / POLICE ASSISTANCE REQUEST FORM

SECURITY/POLICE ASSISTANCE REQUEST

FLIGHT : KA _____SECTOR : _____/_____ A/C REGN : B - _____

INCIDENT : Indecent Assault/Assault/Unruly/Intoxicated/Theft/Smoking

Others (please specify)

PAX NAME : _____ SEAT : _____

Pax restrained?	**Yes/No**
If yes, how?	**Handcuffs/Flex-cuff/Others**
Casualty?	**Yes/No**
If yes, who?	**Cockpit Crew/Cabin Crew/Pax**
Property Damaged?	**Yes/No**
If yes, please specify	_____
Assistant Required:	**Security/Police/Ambulance**
Does assaulted party wish to press charges?	**Yes/No**
Any independent witness?	**Yes/No**

Crew members to be prepared to identify all concerned parties to Security of Police officers meeting the flight and to file a simple report to Police.

10.2.5.4 BOMB WARNING COUNTERMEASURES CHECK LIST

The following is a Check List of counter measures that may be applied in the event of a Bomb Warning being received against a Dragonair aircraft. The appropriateness of a particular countermeasure will depend on the circumstances of each individual incident and therefore this Check List is intended for guidance purposes only.

1. Disembark crew, passengers, cabin baggage and personal belongings.
2. Removal of the aircraft to an isolated parking bay.
3. Offload all hold baggage.
4. Offload cargo, courier material and mail.
5. Aircraft Search, typically conducted by the police or other government agency with technical aircraft operator assistance.
6. Aircraft operator re-checks of the flight deck and cabin.
7. Re-check hold baggage manifest for irregularities in the accounting and authorisation processes.
8. Re-screening of all hold baggage.

9. Conduct physical reconciliation of passengers and hold baggage, verify baggage tags against the baggage manifest.
10. Re-screen passengers, cabin baggage and personal belongings.
11. Passenger travel document reconciliation against manifest and boarding pass.
12. Check integrity of catering supplies and aircraft operator stores.
13. Delay dispatch of the cargo, courier material and mail for a minimum of the scheduled flight time plus 8 hours.
14. Re-screen all cargo, courier material and mail.
15. Do not re-load unaccompanied baggage.
16. Interview / debrief passengers regarding the Bomb Warning.
17. Check for any irregularities occurring at the boarding gate during initial boarding.
18. Check for any irregularities occurring at Check in (e.g. passengers not accepted at check in, late arrivals, other incidents).

10.2.5.5 INFLIGHT BOMB SEARCHLIST – CABIN

DRAGONAIR

SECURITY SEARCH CHECKLIST – CABIN

The areas listed below are to be checked when conducting a security search of the aircraft cabin. If an object is found which gives reason for suspicion, do not touch It. Inform the cockpit crew immediately and follow their advice. If a suspicious object is found, and provided the safety of the search team can be maintained, the search should be continued in case there are multiple devices.

- Passenger seats:
  - This should include the seat cushions, pillows, area underneath the seat, tray table and its stowage, life jacket (check sealed) and its housing, IFE control housing, headphones and PTV housing (where applicable). Start at the bottom of each seat and work upwards.
  - When the search of each seat is complete, fold the seat belt in a cross configuration to indicate completion.
- Overhead lockers:
  - The overhead lockers should be opened and all passenger belongings removed. Visually check the area with the aid of the search mirrors where fitted. Check any pillows or blankets individually.
- Cloakrooms:
  - Remove all coats and baggage and search each item. Every recess of the cloakroom should be checked.
- Lavatories:
  - Containers (eg. waste bins) under the sink should be removed and their contents and recesses checked.
  - Check the towel compartment and tissue dispenser.
  - Check the compartment behind the mirror (if any).
- Galleys:
  - Remove and check all containers, drawers, food/bar carts.
  - If the seals of the bar carts do not look tampered with, do not break them.
  - Check all galley compartments, bar boxes and chillers.
  - Check aircraft inspection panels located within the galley are in position.
- Ceiling compartments:
  - Check all ceiling compartments.
- Magazine racks:
  - Remove all magazines and check the racks.
- Doghouses:
  - Open and check all doghouses.
- Crew seats:
  - Check each seat individually. Open the seat and search down the sides and along the recess area.
  - Check the crew seat compartment.
- Emergency equipment:
  - Check all emergency equipment.
  - If an item has a seal and the seal does not appear to be tampered with, do not break it.
  - Open and check items that do not have seals (eg. demo kits).

10.2.5.6 INFLIGHT BOMB SEARCHLIST – FLIGHT DECK

DRAGONAIR

DRAGONAIR SECURITY SEARCH CHECKLIST – FLIGHT DECK

The areas listed below are to be checked when conducting a security search of the flight deck. If any object is found which gives reason for suspicion, do not touch it. Follow procedures given in Part A para 10.2.5.8.

- Rudder Pedal Areas:
  - Check with assistance of a torch.
- Stowage Compartments:
  - Remove and check items.
  - Check compartment
- Cloakroom:
  - Remove and check items.
  - Check cloakroom.
- Cockpit Crew Rest Compartment (where installed):
  - Check area including blankets, linen and mattresses.
- Flight Deck Lavatory (where installed):
  - Check all compartments that can be opened including waste bin.

10.2.5.7 SECURITY SEARCH CHECKLIST

SEARCH SHEET FOR A320, A321 & A330

Search Guide

The search guide shown below is applicable to A320, A321 and A330. The search should be conducted by Engineering in conjunction with the security forces.

Before searching the aircraft it is recommended that the flaps and slats should be extended, APU and engine cowls open, all entry/exit doors open and all landing gears down.

If any panel appears disturbed, i.e. not correctly fastened, or dirt/oil marks appear smudged, the searcher should carry out a more thorough examination of the area, with the appropriate panels removed or opened.

Observe all precautions when opening/closing doors and when extending retracting devices. Extreme caution should be exercised when opening any door or panel, due to the possibility of an anti-personnel device being present.

After all appropriate areas are checked, Ground Engineers should close all doors.

Search Sheet

(Carry out thorough inspection of the following items and areas.)

- Left Hand forward Fuselage
  - avionics ventilation inlet.
  - left avionics compartment.

Note: check compartment (only remove components if they appear disturbed).

- Nose Section

- radome - open latches/lift radome and check.
- forward avionics compartment

Note: check compartment (only remove components if they appear disturbed).

- ground electrical power door.

- Nose Landing Gear
  - nose gear structure.
  - hydraulic lines and control cables.
  - wheel well.
- RH FWD Fuselage
  - RH + AFT avionics compartment.

Note: check compartment (only remove components if they appear disturbed).

- forward cargo hold, door & service panel.
  - Lower Centre Fuselage

RAM air inlet flap.

- ground air cond and eng start door
- pack air intakes & outlets.
- ground service cond door.
- RAT door.

- RH Centre Wing
  - Eng 2 LH Side.
  - slat 1.
- Eng 2 LH Side
  - cowl doors.
  - oil servicing access door.
  - vent inlet.
  - engine inlet/fan blades.
  - power plant assmy/all ancillary items
- Eng 2 RH Side
  - anti ice exhaust.
  - compartment cooling exit.
  - pressure relief door.
  - starter valve access door.
  - turbine exhaust.
  - pylon/access panel.
- RH Wing Leading Edge
  - slats 2, 3, 4, 5.
  - refuel coupling panel.
  - surge tank air inlet.
- RH Wing Trailing Edge

- control surfaces.
- flaps and fairing

- RH L/G and Fuselage
  - hydraulic lines.
  - L/G structure.
  - L/G doors.
  - hydraulic access door.
- RH AFT Fuselage
  - cargo hold, door and service panel.
  - bulk door.
  - toilet servicing access door.
  - outflow valve.
  - access door.
- Tail
  - stabilizer, elevator, fin and rudder.
- APU – Auxiliary Power Unit
  - power plant assmy/all ancillary items.
  - access doors.
  - air intake.
  - drain and vents.
  - oil cooler air outlet.
  - exhaust.
- LH AFT Fuselage
  - Stabilizer, elevator, fin and rudder.
  - water filling and drainage.
  - hydraulic access door.
- LH L/G
  - hydraulic lines.
  - L/G structure.
  - L/G doors.
- LH Wing Trailing Edge
  - flaps and fairing.
  - control surfaces.
- LH Wing Leading Edge
  - surge tank air inlet.
  - slats 2, 3, 4, 5.
- ENG 1 LH Side
  - cowl door.
  - oil servicing access door.

- vent inlet.
- engine inlet/fan blades.
- power plant assmy/all ancillary items.

- ENG 1 RH Side
  - anti ice exhaust.
  - compartment cooling exit.
  - pressure relief door.
  - starter valve access door.
  - turbine exhaust.
  - pylon/access panel
- LH Centre Wing
  - slat 1.
  - wing leading edge ventilation intake.
- Internal Search Guide
  - Flight Compartment.
    a) documentation stowage.
    b) coat stowage.
    c) headset receptacles, all locations.
    d) full face oxygen mask stowage, all locations.
    e) safety locker.
    f) life jacket/vest stowage, all locations.
    g) ashtrays, all locations.
    h) smoke hoods, all locations.
    i) seats (2 pilots + 3 & 4 observers) extend/operate seats/remove cushions.
    j) bulbs/filament/fuse stowage.
    k) escape rope stowage.
    l) manual stowage.
    m) check list stowage.
    n) sunvisors.
    o) misc. stowage.
    p) briefcase stowage (rear of pilot‟s seats).
    q) Areas around rudder pedals.
  - Passenger Compartment.
    a) Galleys
       (1) all ovens.
       (2) all compartments.
       (3) all food carts (removed from stowage).
       (4) all galley equipment (coffee pots etc.).
    b) Flight attendants seats.

(1) folding seats, all locations (extended).

(2) smoke hoods. all locations.

(3) emergency equipment stowage, all locations. (4) FWD & AFT attendants panel including C.I.D.S.

c) Lavatories / toilets

(1) waste container, all locations.

(2) sanitary unit cabinet, all locations.

(3) nursing table, all locations.

(4) washbasin and underneath (via access panel).

(5) toilet unit.

(6) waste container.

(7) waste chute flap.

(8) service box.

d) Main cabin

(1) all passenger seats with cushions removed.

(2) all passenger lifejacket vests. Note : close inspection.

(3) all passenger overhead stowage bins.

(4) dog house/all locations.

(5) coat stowage/other stowage.

e) emergency exits remove all overwing emergency exits (4).

WARNING: TAKE NECESSARY PRECAUTIONS TO AVOID AN INADVERTENT SLIDE DEPLOYMENT

f) entry/exit doors

(1) All doors, detailed inspection especially escape slide and surrounds housings.

WARNING: TAKE NECESSARY PRECAUTIONS TO AVOID AN INADVERTENT SLIDE DEPLOYMENT.

10.2.5.8 SUSPECTED BOMB ON BOARD CHECKLIST

SUSPECTED BOMB ON BOARD CHECKLIST

If a suspect device is found in the cabin, inform the Cockpit Crew. Only follow this checklist if instructed to do so by the Cockpit Crew.

DO NOT CUT OR DISCONNECT ANY WIRES

DO NOT OPEN OR ATTEMPT TO GAIN ENTRY TO INTERNAL COMPONENTS OF A CLOSED OR CONCEALED SUSPECT DEVICE

DO NOT TAKE A SUSPECT DEVICE TO THE COCKPIT

1. Announce "ARE THERE ANY EOD PERSONNEL ON BOARD". By using the initials, only persons familiar with EOD (Explosive Ordnance Disposal) will be made aware of the problem.
2. Secure the suspect device in the attitude found, and do not lift before having checked for an anti-lift ignition device.
3. Move passengers at least 4 seat rows away from the location. On full flights, it may be necessary to double up passengers to achieve standoff from the suspect device. Passengers near the suspect device should protect their heads with pillows and blankets. All passengers must remain sealed with seatbelts fastened and, if possible, with the head below the top of the headrest. Seat backs should be upright and tray tables and PTVs stowed. Service items may need to be collected in order to secure tray tables.
4. Ensure passengers have switched off all electronic devices.
5. Inform the Cockpit Crew and follow their advice.

   If instructed by the Cockpit Crew to check for an anti-lift device:

   slide a stiff thin card (e.g. safety instruction card) under the suspect device without disturbing it.

6A. If the card cannot be slipped under the device, it may indicate that an anti-lift switch or lever is present and that the device cannot be moved. Inform the Cockpit Crew and follow their advice. If instructed by the Cockpit Crew:

   i. Surround the device with a single thin sheet of plastic, then with wetted materials, and other blast attenuation materials such as seat cushions and soft bags saturated with water or other non-flammable liquid. Move personnel as far away from the suspect device location as possible.

   ii. Remove all emergency equipment (e.g. PBE, fire extinguisher, oxygen bottles etc.) located close to the device and stow in an alternate location.

   iii. Switch off all galley and IFE equipment located close to the device.

OR

6B. If the card can be slipped under the suspect device, leave it under the device. Inform the Cockpit Crew and follow their advice. If instructed by the Cockpit Crew:

   i. Prepare the Least Risk Bomb Location (LRBL) according to the LRBL Cabin Preparation Checklist provided on the reverse of this card.

   ii. Do NOT move the suspect device until instructed to do so by the Cockpit Crew.

10.2.5.9 LEAST RISK BOMB LOCATION (LRBL) CABIN PREPARATION CHECKLIST

LEAST RISK BOMB LOCATION (LRBL) CABIN PREPARATION CHECKLIST

Only prepare the LRBL when instructed by the Cockpit Crew.

A. Identify the LRBL (aft most cabin door on the right side of the aircraft - R2 or R4 dependant on aircraft type).

B. Remove all emergency equipment (e.g. PBE, fire extinguisher, oxygen bottles etc.) located close to the LRBL and stow in an alternate location.

C. Switch off all galley and IFE equipment located close to the LRBL

D. Disarm the escape slide.

E Stack hard carry-on luggage up to 10 inches below the middle of the door.

F. Place 10 inches of wetted materials (e.g. wet blankets and pillows) on top of the stacked luggage.

G. Place a plastic sheet (e.g. trash bag) on top of the wetted materials. Do not omit the plastic sheets, as the suspect device could get wet and possibly short circuit electronic components causing inadvertent device activation.

H. Place a 6-8 foot long "bomb location indicator line" (e.g. neckties, headset cord, or belts connected together, preferably of contrasting colour) on top of the plastic sheet where the suspect device will be placed. Ensure the "bomb location indicator line" is long enough so that it extends into the aisle and is visible after the whole area is prepared. Care must be taken to ensure that the "bomb location indicator line" cannot be accidentally snagged, e.g. by tripping, as this could disturb the suspect device. Do NOT move the suspect device until instructed to do so by the Cockpit Crew

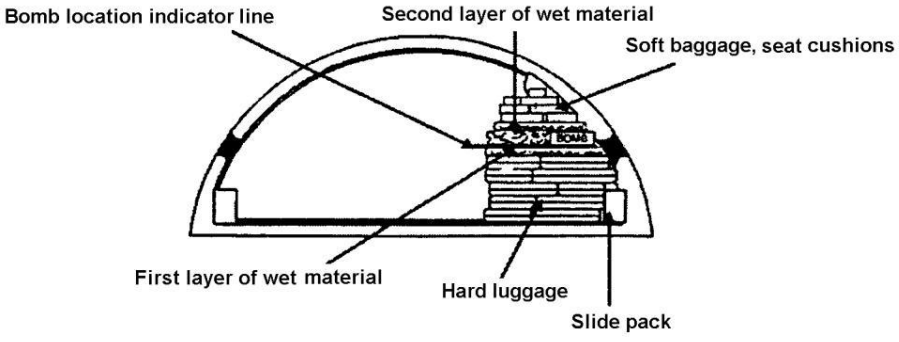
I. Carefully move the suspect device in the attitude found to the LRBL and place it against the door on top of the plastic sheet, keeping the device in the same attitude. Ensure the device is above the slide pack but not against the door handle and, if possible, inside the observation window.

J. Place another plastic sheet over the suspect device. Do not omit the plastic sheets, as the suspect device could get wet and possibly short circuit electronic components causing inadvertent device activation.

K. Place another 10 inches of wetted materials on top and around the sides of the suspect device. Do not place anything between the suspect device and the door, and minimize air space around the device. The idea is to build up a protective surrounding around the suspect device so that the explosive force is directed towards the only unprotected area, i.e. the door structure.

L. Fill the entire area used as the LRBL with blast energy absorbing soft materials (e.g. seat cushions and soft bags) until it extends up to the cabin ceiling and out to the aisle, packing the material as tightly as possible. The more material stacked around the suspect device, the less the damage will be. Use only soft material. Avoid using materials containing any inflammable liquid and any metal objects which could become dangerous projectiles.

M. Tie the entire stack securely in place with belts, ties and other appropriate materials.



N. Move passengers at least 4 seat rows away from the LRBL. On full flights, it may be necessary to double up passengers to achieve standoff from the suspect device.

Passengers near the suspect device should protect their heads with pillows and blankets. All passengers must remain seated with seatbelts fastened and, if possible, with the head below the top of the headrest. Seat backs should be upright and tray tables and PTVs stowed.

O. Notify the Cockpit Crew that the suspect device is secured at the LRBL.

P. When instructed to do so, evacuate through normal emergency exits on the opposite side of the suspect device's location. Do not use the door immediately opposite the suspect device. Use all available airport facilities to disembark without delay.

10.3 PREVENTATIVE SECURITY MEASURES & TRAINING

10.3.1 TRAINING

Flight Crew Training Refer to Ops Part D Training.

TABLE OF CONTENT

INTENTIONALLY BLANK

11 HANDLING, NOTIFYING & REPORTING OCCURRENCES

11.1 TERMINOLOGY

11.1.1 ACCIDENT

An accident is an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all persons have disembarked, in which:

a. a person is fatally or seriously injured as a result of:

i. being in the aircraft;

ii. direct contact with any part of the aircraft, including parts which have become detached from the aircraft; or,

iii. direct exposure to jet blast;

except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew: or

b. the aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft; and would normally require major repair or replacement of the affected component; except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents or puncture holes in the aircraft skin: or

c. the aircraft is missing or is completely inaccessible.

11.1.2 SERIOUS INCIDENT

An Incident involving circumstances indicating that an accident nearly occurred.

11.1.3 INCIDENT

An incident includes occurrences that:

Has jeopardised the safety of the crew, passengers or aircraft but which has terminated without serious injury or substantial damage;

Was caused by damage to, or failure of, any major component not resulting in substantial damage or serious injury but which will require the replacement or repair of that component;

Has jeopardised the safety of the crew, passengers or aircraft and has avoided being an accident only by exceptional handling of the aircraft or by good fortune;

Has serious potential technical or operational implications;

Causes trauma to crew, passengers or third parties;

Could be of interest to the press and news media.

Examples include loss of engine cowlings, portions of flap or control surfaces, items of ancillary equipment or fuselage panels; an altitude excursion; a minor taxiing accident; damage due to collision with ground equipment.

11.1.4 SERIOUS INJURY

‘Serious injury’ means an injury, which is sustained by a person in a reportable accident and which:

Requires that person’s stay in hospital for more than 48 hours commencing within

seven days from the date on which the injury was sustained, or

Results in the fracture of any bone, except simple fractures of fingers, toes or nose, or

Involves lacerations which cause nerve, muscle or tendon damage or severe haemorrhage, or

Involves injury to any internal organ, or

Involves second- or third-degree burns or any burns affecting more than five per cent of the body surface, or

Involves verified exposure to infectious substances or injurious radiation.

11.2 ACCIDENT PROCEDURES

11.2.1 COMMANDER/CREW POST-ACCIDENT PROCEDURES

Immediately after an accident and following the evacuation of any passengers from the aircraft the Commander, a crewmember or a delegated person must carry out the following duties subject to safety considerations and the prevailing situation:

The aircraft must be secured in a condition as safe as possible;

A headcount must be made to account for all persons on board the aircraft;

The needs of any injured persons must be attended to;

The remains of any deceased persons should be decently set apart and covered;

The distress beacon must be activated and pyrotechnics, if available, prepared for immediate use;

If people, dwellings or communications facilities are close to the accident site, efforts to obtain assistance must be made, having regard to the local situation.

The wreckage of the aircraft must be preserved and unauthorised persons should not be allowed access to it. An authorised person is any person nominated by the accident investigation authority or regulatory authority, and usually includes police, fire and rescue services.

STATEMENTS TO THE PRESS AND OTHER NEWS GATHERING AGENCIES

An accident or incident is invariably a high profile event and staff should not provide any information be it fact or opinion to anyone outside Dragonair unless authorized to do so by the Crisis Manager, the Accident Manager, Head of Corporate Safety and Quality or by the Manager of Corporate Communications. Accordingly, if staff are directly approached by the media, the standard response must be:

I am not the right person to speak to. Our Corporate Communication Department will be able to help you with the latest information. They will be able to answer your questions if you call them at (852) 2747 5393.

It may be that staff may receive a frantic call from an anxious relative out of desperation should the normal lines of crisis communication be temporarily jammed. On receipt of such a call, it is important to keep in mind that the caller must be treated with the utmost respect, compassion and sensitivity. The caller must be informed of the correct number to call. But if the caller has tried those numbers and cannot get through, make it known that you are not the person handling the situation but would like to help. Note the details of the caller and FAX them to the enquiry center with instructions to return the call.

Detail of Company Crisis Communications Policies and Procedures are contained in the Corporate Crisis Management Manual (CCMM) Volume 3.

11.2.2 PRESERVATION, PRODUCTION AND USE OF FLIGHT DATA

Commanders and Engineers are reminded that DFDR and CVR recordings should not be erased. After an incident/accident local authorities may approach the Commander with a request for immediate access to CVR/DFDR/QAR data. Be advised that under the terms of ICAO Annex 13 (Aircraft Accident and Incident Investigation) the State of Occurrence, if it decides to have an investigation, is empowered to call for such data. IOC should be informed immediately of any such requests.

11.3 MANDATORY OCCURRENCE REPORTS

11.3.1 ACCIDENT AND SERIOUS INCIDENT REPORTING

The following is a summary of incidents which should be reported as Mandatory Occurrence Reports (MORs) - it is not exhaustive and should be considered only as a guide. Please refer to CAD 382 'The Mandatory Occurrence Reporting Scheme' for a comprehensive list. A copy of CAD 382 is available in the Safety Information Counter of the Pilot Briefing Room.

Essentially any event which, under unfavorable circumstances, could potentially have, or has, resulted in the loss of or damage to an aircraft or its occupants is deemed to be reportable. However, if there is any doubt please refer to CAD 382 as the CAD does not wish to 'obscure the more significant safety items' by 'overenthusiastic reporting of such items which fall below this criteria'.

Items, which do not meet the requirements for an MOR, should be submitted to the Corporate Safety & Quality Department as an Air Safety Report (ASR), and if upon review it is deemed to warrant upgrading to an MOR, a submission will be made on the reportees' behalf.

1. Inflight emergency requiring the use of emergency procedures or equipment.
2. Declaration of an emergency; 'Mayday' or 'Pan'.
3. Failure of emergency or redundant equipment/systems to operate correctly.
4. Ground proximity warning in IMC conditions. (Not nuisance warnings).
5. TCAS Resolution Advisory (RA) where a realistic threat of collision was deemed to have existed.
6. Activation of primary flight control warning system; overspeed etc.
7. Significant, unintentional deviation from assigned track or altitude (+/- 300ft).
8. Significant inadvertent reduction in airspeed.
9. Flameout, shutdown or significant malfunction of any engine.
10. Rejected takeoff at speeds near V1, which may have resulted in a hazardous situation.
11. Descent below MDA/DH in IMC conditions.
12. Go around producing a hazardous or potentially hazardous situation.
13. Flap or slat asymmetry.
14. A significant loss of braking.
15. A warning of smoke or fire resulting from a situation hazardous to the aircraft or its occupants.
16. Any significant damage to the aircraft howsoever caused.
17. Leakage of fuel or other fluids, which resulted in a fire or contamination hazard.
18. Serious injury caused to any person during the operation of the aircraft (flight or ground).
19. Incapacitation of flight deck operating crew.
20. Incapacitation of cabin crew whereby they are unable to perform essential emergency duties.
21. Passenger tampering with lavatory smoke detection equipment.
22. Passenger behaviour resulting in the use of restraining force or use of the restraining kit.

The regulations require that a "reportable accident" should be notified as soon as possible to the:

Chief Inspector of Accidents

Civil Aviation Department

46/F Queensway Government Offices

66 Queensway

HONG KONG

Tel 2910 6821 (24 hours)

Fax 2869 0093

If the accident occurs in or over Hong Kong, it should also be notified to the Commissioner of Police.

The notification should be made by the Commander of the aircraft involved in the accident or, if he is killed or incapacitated, by the operator of the aircraft. In the case of Dragonair, this will be the General Manager Operations.

The Head of Corporate Safety and Quality (CSQ) will prepare the Notification of An Aircraft Accident (ACCID) form (an example of which may be found at Annex B to the Accident Investigation Manual) for the Crisis Manager to send to the CAD. The information required is as follows:

A. the type, model and the nationality and registration marks of the aircraft;

B. the name of the owner, operator, and hirer (if any) of the aircraft;

C. the name of the commander of the aircraft;

D. the date and Co-ordinated Universal Time of the accident;

E. the last point of departure and the next point of intended landing of the aircraft;

F. the position of the aircraft by reference to some easily defined geographical point and latitude and longitude;

G. the following information concerning the crew and passengers:

   a. the number of crew on board the aircraft at the time of the accident and the number of them killed or seriously injured as a result of the accident;

   b. the number of passengers on board the aircraft at the time of the accident and the number of them killed or seriously injured as a result of the accident;

   c. the number of other persons killed or seriously injured as a result of the accident;

H. the nature of the accident and the extent of the damage to the aircraft as far as is known.

As much of this information as is immediately available should be sent to the Chief Inspector of Accidents by the quickest means available. In most cases this would be by telephone and the appropriate number is (852) 2910 6821. This number can be used on a 24 hours basis.

If the accident has taken place in or over Hong Kong the wreckage of the aircraft may not be removed or interfered with, nor should any unauthorized person be allowed access to it without authority, except as may be necessary for the extrication of persons or animals, removal of any mails, the prevention of destruction by fire, water of other cause, or danger of obstruction to the public or to air navigation, or to other transport. An authorized person means any person authorized by the Director-General of Civil Aviation either generally or specially to have access to any aircraft involved in an accident, and includes police officers and officers of Customs and Excise Service.

Any of the above information which is not immediately available should be sent as

soon as practicable to the Chief Inspector of Accidents, at the address above, by the most expeditious means. Where doubt exists as to whether an occurrence should be notified, it should be reported without delay.

The Chief Inspector of Accidents can also require the owner, operator, commander or hirer of the aircraft to provide such information as is in their possession or control (with respect to the accident or serious incident) in such form and within such time as may be specified.

11.3.2 FLIGHT INCIDENT

The Air Safety Reporting scheme (in parallel with Flight Data Analysis and Confidential Human Factors Reporting) is an integral part of the safety tracking and monitoring programme for Dragonair flight operations.

Crew are encouraged to report **ALL** safety related events which do not warrant the submission of an MOR as an ASR, they may be pro-active or reactive and should be as detailed as possible. For example: an air turn back of a technical nature which does not warrant an MOR. It is regularly the case that some events taken in isolation often seem benign, however omitting to report them only obscures trends and therefore reduces the effectiveness of our safety oversight. Thus the submission of an ASR could help to break the chain of events which may lead to a more serious incident or accident. In addition the improvements in safety required in some of the weaker parts of our route network will only come with persistent and diligent reporting, allowing our resources to be focused appropriately. However it is essential that reports are factual and objective, do not apportion blame and avoid the use of emotive language or terms.

If in the light of further investigation, an ASR is deemed to be more serious it will be upgraded to an MOR and the reportee will be notified accordingly, additionally if a persistent ‘low risk’ event is flagged by the submission of multiple, similar ASRs, it may also, in turn, be upgraded to an MOR.

11.3.3 BIRD HAZARDS AND STRIKES

Pilots should file Birdstrike and AIRPROX reports using the AIR SAFETY REPORT form. Completed forms are to be returned to the CSQ Dept or directly to CAD, in the latter case copy the report to the MAS.

The report will be upgraded to an MOR if the incident meets any of the “reportable occurrence” criteria.

11.4 OCCURRENCE REPORT FORMS (ASR)

11.4.1 REPORTING PROCEDURE

MORs are required to be submitted to the CAD within 96 hours of the event, to this end please ensure that the form is faxed **immediately** to the Corporate Safety & Quality Department by the reporter or station representative upon arrival.

Corporate Safety & Quality Department Fax number: (+852 3193 2128).

Pilots are to make occurrence reports on the Dragonair Air Safety Report (ASR) Form which has been approved by CAD as meeting the requirements of CAD 382 - The Mandatory Occurrence Reporting Scheme. The form may be returned to the CAD at the following address:

Airworthiness and Airports Operations Section, 10/F., Commercial Building, Airport Freight Forwarding Centre, 2 Chun Wan Road, Chek Lap Kok, Lantau, Hong Kong.

However, the preferred method is through the Dragonair Head of Corporate Safety & Quality by completing the Air Safety Report (ASR) Form. The Corporate Safety & Quality Department will then complete and submit any additional forms that are required by the CAD. This also allows for reports based on a broader criteria. The company will assess the reports received and submit only those it believes qualify as reportable occurrences. It is, however, the right of a pilot to insist that his report be submitted as Mandatory, if he/she so wishes.

Pilots, who have submitted a report will be informed of its progress and its submission to the CAD, if applicable.

NOTE: Occurrence Reports must be despatched to the Civil Aviation Department within 96 hours. The Head of Corporate Safety & Quality will ensure that this requirement is met, however, reportees must do their part by ensuring timely dispatch of reports by fax to Head of Corporate Safety & Quality.

Circumstances may arise which prevent crews from filing a written report within the specified period, in such cases alternative methods are available:

a. Forward the relevant details to the Dragonair Corporate Safety & Quality Department, attention Head of Corporate Safety & Quality by fax on +852 3193 2128 or by telephone on +852 3193 3470 or 3193 3475.

b. Fax the Civil Aviation Department direct. Fax No: +852 2362 4250.

c. If a report is submitted using any of the above methods, ensure that it is supported by a written report to Operations as soon as possible.

d. Air Safety Report (ASR) Forms are available from Operations and Crew Briefing. Air Safety Report Form is also carried in the navigation bags on board the aircraft.

e. ASR/MOR, can be submitted electronically from the CSQ page on Dragonet.

11.4.1.1 ASR / MOR REPORTING – MAINTENANCE LOG ENTRIES

Whenever an ASR/MOR is submitted involving any technical deficiencies with aircraft components commanders are to ensure that Maintenance log entries are annotated “THIS ENTRY IS THE SUBJECT OF ASR/MOR ACTION”. The ASR form is to be annotated with the AML page and item number in the box provided.

11.4.2 REPORTING RESPONSIBILITY

Flight Crew responsibility for reporting commences with the acceptance of the aircraft for flight (i.e. the signing of the Technical Log) and ceases on completion of the Technical Log at the end of consecutive duty sectors. Ground Crew responsibility for reporting exists at all other times.

11.4.2.1 CATEGORIES OF PERSONS REQUIRED TO REPORT

Operators and Commanders of public transport aircraft with an MTOW of above 2,300 kgs.

Those concerned with the manufacture, repair, maintenance and overhaul of aircraft, or any part or item of equipment intended for use on such an aircraft; or those who sign Certificates of Maintenance Review, Release to Service for such aircraft, or any part or item of equipment.

Aerodrome licensees managers, and civil air traffic controllers operating in circumstances that require an ATCO's licence.

It should be understood that the legislation defines those who have to report; anyone may in fact report should they consider it necessary.

11.4.3 HANDLING OF AIR SAFETY REPORTS

Dragonair publishes ASRs and their follow ups on a monthly basis and strongly encourages crews to review them either via email or by reference to the CSQ notice board in the Briefing Office.

Dragonair ASRs are not de-identified, therefore any crew member, who, for whatever reason, feels uncomfortable submitting one should consider the submission of a report under the Confidential Human Factors Reporting Scheme, in order to minimize the loss of valuable safety information.

ASR forms are available in the flight deck Nav bag and should be actioned as shown at the bottom of the form with the Voyage Report annotated accordingly.

11.5 IN-HOUSE INVESTIGATION

11.5.1 GENERAL

11.5.1.1 ACCIDENT INVESTIGATION TEAM

The Dragonair Accident Investigation Team (AIT) will normally be led by either the Head of Corporate Safety and Quality (HCSQ) or the Manager Air Safety (MAS) acting as Investigator in Charge (IIC). However, in some circumstances, the HCSQ may further delegate this role.

It is unlikely that the KA AIT will conduct the primary investigation into any accidents or serious incidents involving an aircraft owned or operated by Dragonair or a contracted airline. This would normally be undertaken by the State of Occurrence, the State of Registry or the State of the Operator – as determined in accordance with Section 6 of the KA Accident Investigation Manual.

The Dragonair (KA) AIT is formed to carry out an internal Company investigation and to assist the Official Investigation running in parallel. The main purpose of the KA AIT is to ensure that timely information is available to the Company so as to prevent a re-occurrence of the accident. The KA Accident Investigation Manual (CSQ Emergency and Accident Plan) produced and maintained by HCSQ, provides guidelines on how the company investigation team is formed and managed. The Operations Division Supplement identifies the specific duties of the Operations Managers assigned to the AIT together with activity check lists.

INTENTIONALLY BLANK

NOT APPLICABLE

INTENTIONALLY BLANK

NOT APPLICABLE

INTENTIONALLY BLANK

TABLE OF CONTENT

14 GENERAL CREW REGULATIONS & ADMINISTRATION

14.1 CREW REGULATIONS

14.1.1 CREW CONDUCT

Company personnel are to conduct themselves at all times so as to enhance Dragonair's business and reputation.

14.1.2 POINT OF CONTACT – OPERATIONAL ADMINISTRATION

The Flight Crew Relations Manager (FCRM) is the primary point of contact on the following topics:

- Crew Administration
- Medical issues
- Elective Surgery
- Long-term sickness
- Disciplinary issues
- Grievances
- Compassionate issues
- Requests for emergency leave of absence
- Briefing Office issues
- Issues with HAS
- Catering
- Uniform
- Lost/stolen documents (passport/ICAO/KA staff cards)
- Personal Accidents
- Crew Reporting at HKG
- Alcohol and psychoactive substance rehabilitation programme

However crewmembers are to contact the below detailed Managers on the following topics.

Crew reporting Outstations	(Primary MA)
Hotel accommodation	(Primary MA)
Leave issues	(Primary AS – L & A)
Resignations	(Primary AGMO)
Retirements	(Primary AGMO)
Transfers (including bids for positions)	(Primary MCR)
Terms of employment / CoS issues	(Primary MAP)

14.1.3 COMPANY UNIFORM DRESS CODE

14.1.3.1 GENERAL

A smartly attired crew who are dressed correctly will always convey the image of professional competence. To this end, the Company Uniform dress code aims to

provide crewmembers with guidance on uniform dress standards whilst facing the public together with acceptable relaxations whilst operating the aircraft.

It is neither possible nor appropriate to attempt to provide dress guidance for every single eventuality. Crewmembers should therefore use common sense when faced with circumstances not specifically covered in these guidelines.

14.1.3.2 COMPANY UNIFORM

It is the personal responsibility of all crewmembers to ensure that dress standards are maintained whilst on duty and that uniforms are kept in a clean and smart condition. The Company Uniform is issued in accordance with paragraph 14 of the CoS and comprises of the following items:

- Jacket
- Shirt (long or short sleeved at individual discretion)
- Tie (clip on tie is acceptable)
- Trousers
- Rank epaulettes
- Wing badge on both shirt and jacket
- Black shoes
- Overcoat

The Company may also provide the following extra items of clothing on request:

- Casual Jacket

14.1.3.3 UNIFORM DRESS CODE

Whilst in the public view, crewmembers are to wear the Company Uniform in accordance with the definitions of duty, off duty and the relaxations that follow:

a. **DUTY - FLYING OPERATIONS**

i. **HKG to HKG**

Crewmembers are to wear Company Uniform from crew check-in until clear of the CLK PTB buildings or on completion of duty.

ii. **HKG to Outstation**

Crewmembers are to wear Company Uniform from crew check in at HKG until established in the hotel room at the outstation.

iii. **Outstation to HKG**

On leaving the hotel for duty, crewmembers are to wear Company Uniform from the point of crew assembly in the hotel lobby prior to departure for the airport. Crewmembers are to remain in Company Uniform until clear of the CLK PTB buildings or on completion of duty.

iv. **Outstation to Outstation**

On leaving the hotel for duty, crewmembers are to wear Company Uniform from the point of crew assembly in the hotel lobby prior to departure for the airport and are to remain in Company Uniform until established in the hotel room on arrival at the outstation.

b. **DUTY - POSITIONING**

i. **Positioning when listed on the GD**

Crewmembers are to wear Company Uniform during the entire period of

duty.

ii. **Positioning as Ticketed Passengers**

Crewmembers may position as passengers in civilian clothes in accordance with the staff travel dress code.

c. **OFF DUTY**

i. **Off duty**

Company Uniform is not to be worn off duty except when traveling to and from work. Crewmembers may wear uniform trousers, shirt, and shoes during travel to and from work - provided that badges of rank and Company insignia (epaulettes, jackets and ties) are concealed from public view.

ii. **Socializing Off Duty**

Crewmembers who are off duty are not to consume alcohol nor participate in any informal social or leisure activities whilst wearing Company Uniform. Crewmembers who are deadheading after completion of operating duty are not to consume alcohol if they are listed on the GD.

d. **RELAXATIONS ON THE DRESS CODE**

Jackets may be removed or carried in either crew or public transport or in the crew hotel. Crewmembers may wear shoes of individual choice provided that they are black and either a lace up or a high ankle boot. The casual jacket and the pullover may be worn whilst on duty but not when in view of passengers or the public.

Crewmembers may use their own flight bags and overnight bags. Such bags are to be plain black. Backpacks are not permitted.

During the summer months, the wearing of the jacket is optional. Crewmembers will be advised by FCN of the dates when jackets need not be worn. All crewmembers are to be similarly attired (i.e. either jackets on or off) when operating as a crew.

Crewmembers positioning or deadheading on the GD on Company Aircraft may remove jackets whilst in the aircraft.

Once on the flight deck, crewmembers may relax standards of dress to ensure comfort for flying duties. However, crewmembers are to be smartly presented – with tie - when in view of passengers.

14.1.3.4 REPLACEMENT AND DISPOSAL OF UNIFORMS

Crewmembers may replace four shirts, two ties and one pair of shoes per year. Other items may be renewed as required but not normally more often than once per year. For security reasons, uniform jackets (including braid), epaulettes and wing badges will only be replaced on an exchange basis. On leaving the Company, crewmembers are to return uniform insignia and badges of rank to Flight Crew Relations Manager on Level 2 for disposal.

14.1.3.5 UNIFORM SERVICES

Uniform Services is located in the basement of the FTC. Opening hours are Monday to Friday from 0830hrs until 1800hrs.

To order items of uniform, crewmembers are to raise an online requisition via KA Uniform System. A notification advising that the item is ready for collection will be sent to the crewmember via e-mail.

Details of the procedure for ordering tailored items and other issues concerning uniforms may be obtained from the Uniform Services Executive. Procedures for

ordering uniform items are available on Intranet under ‘Crew Uniforms’.

14.2 MEALS & ALLOWANCES

14.2.1 OVERNIGHT ALLOWANCES

14.2.1.1 CREW OVERNIGHT ALLOWANCES

For overnight stops away from Hong Kong, hotel accommodation and meal allowances are paid by the company.

A standard meal allowance has been approved for each outport. Upon arrival at the hotel where a stopover is planned, crew will normally be issued with the cash allowance in accordance with the standard allowance.

Meal allowances will be paid to crew for off duty periods, according to the scheduled time of a flight, and coincident with the meal periods listed in the standard allowance table i.e. from schedule time of flight arrival + 30 minutes to schedule time of flight departure – 60 minutes. Actual time of arrival will not affect the allowance paid. No matter it be a late or early arrival which results in the duty period ending after a meal period or entering into an additional meal period.

Meal allowances are calculated as follows:

Breakfast - the price of a full or buffet breakfast in the coffee shop.

Lunch - the price of a juice, soup, main course, dessert and coffee in the coffee shop.

Dinner - the price of a juice, soup, main course, dessert and coffee in the restaurant*.

*If a western style restaurant is not available, the coffee shop will be used for the allowances calculation. Price of each course should be the average of all items except for items of excessive cost (as a guide those items which are twice the cost of others).

Meal allowances are calculated according to the menu of the hotel used and taking into consideration any discounts offered by the hotel. When calculating the overnight allowance the maximum discount included will be 20%. Any discount offered by the hotel in excess of 20% will not be considered in the calculation.

Incidental allowances will be paid for every local night spent off-duty at an outport, admissible only after 0001 hours.

5 days incidental allowance – Further for every five nights or more spent outport at a continuous stretch away from home, an additional allowance called the “5 days incidental allowance” would be paid for each fifth night or more (admissible after 0001 hours).

Captains are not authorised to vary allowances. Extraordinary expenses together with supporting documents are to be submitted to the Manager Aircrew (MA) for consideration.

The out port staff will settle hotel accommodation charges. If this should not be the case, bills and receipts are to be submitted to the MA.

14.2.1.2 IRREGULAR SCHEDULED OVERNIGHTS

Charter flights will occasionally require crews to stay at hotels not usually frequented by Dragonair. In such cases, prior to departure from Hong Kong, crews will be paid an allowance calculated by MA.

14.2.1.3 DELAYED AND RE-SCHEDULED SERVICES

Delayed flights ex HKG

If the crew are at the airport, refreshment vouchers may be authorized depending on

circumstances. However the company reserves the right to reduce the meal allowance if refreshment vouchers have been issued.

Re-scheduled Services ex Hong Kong

If the crew are notified of a flight re-scheduling before reporting at the Briefing Office, the meal allowances will then be paid according to the revised schedule.

Re-scheduled Services ex Outport

a. If the delay is more than 45 minutes, the pick up and check in time will be amended by Crew Control based on the revised schedule. Crew Control will accordingly send a message to the hotel. Meal allowances will be paid according to the revised schedule.

b. If the delay is 45 minutes or less, the original pick up and check in time will remain unchanged. Crew Control will not inform the hotel of the delay in this case and crewmembers are not to amend the pick up and check in time. Meal allowances will be paid according to the original schedule.

c. If the crew roster is changed due to operational requirements, the Company reserves the right to deduct the allowance.

14.2.1.4 STANDARD ALLOWANCES AND ADDITIONAL OUTPORTS

a. CHINA

	BREAKFAST (0500-0900)	LUNCH (1200-1400)	DINNER (1800-0001)	INCIDENTALS	5 DAYS INCIDENTALS
BJS (RMB)	60	235	320	35	125
CTU (RMB)	55	220	325	30	85
HGH (RMB)	65	255	370	30	70
NKG (RMB)	70	165	310	20	65
NGB (RMB)	40	215	280	25	110
SHA (RMB) Renaissance Crowne Plaza	 50 50	 260 240	 340 335	 40 25	 105 135
CAN (RMB)	100	255	345	30	94
CKG (RMB)	125	250	290	32	82
CSX (RMB)	115	260	360	30	109
FOC (RMB)	70	175	245	29	32
HKG (HKD)	90	280	320	25	85
KMG (RMB)	70	100	135	18	70
SYX (RMB)	105	170	255	17	43
TAO (RMB)	70	150	215	20	75
WUH (RMB)	125	220	325	24	115
XMN (RMB)	50	210	280	25	85

b. China Offline Ports

	BREAKFAST (0500-0900)	LUNCH (1200-1400)	DINNER (1800-0001)	INCIDENTALS	5 DAYS INCIDENTALS
(RMB)	98	207	280	25	76

c. Others Outports

	BREAKFAST (0500-0900)	LUNCH (1200-1400)	DINNER (1800-0001)	INCIDENTALS	5 DAYS INCIDENTALS
BLR (HKD)	75	280	300	25	95
KHH (TWD)	350	1210	1310	100	380
KTM (NPR)	540	2505	2610	665	1600
MNL (PHP)	600	1177	1556	127	1500
TPE (TWD)	240	900	1060	75	480
BKI (MYR)	40	105	125	15	51
DAC (USD)	24	30	38	3	15
HAN (USD)	15	35	42	5	12
HKT (THB)	590	1055	1380	110	510
PNH (USD)	17	33	40	4	15
PUS (KRW)	18700	41500	47000	4400	21700

d. Non-China Offline Ports

	BREAKFAST (0500-0900)	LUNCH (1200-1400)	DINNER (1800-0001)	INCIDENTALS	5 DAYS INCIDENTALS
(HKD)	128	247	302	30	114

14.2.2 MEAL VOUCHER

An operating crewmember is entitled to a meal voucher when he/she is transiting in HKG for more than two hours and part of that period falls in one of the following meal periods:

0500L - 0900L

1200L - 1400L

1800L - 2359L

The meal voucher, with a limited validity of one week, will be issued to the Officer either at the KA Briefing Office or placed in the Flight Documentation Envelope. Please be reminded that when placed in the Flight Documentation Envelope, the meal

voucher is stapled to the Flight Plan or to the List of Entry / Departure Flight and Staff Pattern and Register.

In disruption situations where the revised transit time in HKG meets the above criteria, individual claims, with the original receipt, timing and flight details, should be submitted to Aircrew Management Department within 1 month of the event. The Officer can reimburse up to the maximum amount of the meal voucher value or the actual amount on the receipt, whichever is lower.

No ad hoc meal voucher will be issued. Only claims submitted to Aircrew Management Department for reimbursement will be accepted.

14.2.3 CREW CATERING – SPECIAL MEALS

In-flight special meals for cockpit crews will be provided only to those crewmembers who have a medical condition which requires specific dietary control.

To apply for a special meal the crewmember concerned is to proceed as follows:

a. Obtain an endorsement from an AME (HKG) that a special dietary requirement is part of a programme of treatment for a specific medical condition.

b. Submit the endorsement to the Company Doctor (Dr John Fowler on 9759 8477) who will consult with FCRM on the term and validity of the application. Medical privacy will be observed.

Should the application be approved, the crewmember will be informed accordingly and will be allocated a special meal authorisation number. The crewmember may place an order for a special meal using the following procedure:

a. Complete the special meal order form (example overleaf) with name and authorisation number clearly marked. Please note that it is important to order special meals on this form from the HKG base for all sectors of the duty pattern in accordance with entitlement as there is no facility to submit an order for a special meal from an outport.

b. Hand the completed form to Flight Dispatch for transmission to the appropriate in flight caterer **no later than 70 minutes prior to ETD**. The caterer cannot guarantee delivery of a special meal for orders transmitted any later than 70 minutes before ETD.

To facilitate the order, a meal plan indicating the hot meal entitlement on different sectors will be made available to entitled crewmembers on a monthly basis for reference.

There is a limited selection of special meals available and the most appropriate choice will be allocated to the crewmember concerned on consultation with the Company Doctor.

Once the timescale for the provision of the special meal has expired, FCRM will inform that the crewmember concerned is no longer entitled to a special meal.

Should the crewmember wish to continue to be supplied with a special meal after the expiry of the timescale, then he / she is to re-apply in accordance with this procedure.

SPECIAL MEAL ORDER FORM

THIS FORM MUST BE SUBMITTED TO FLIGHT DISPATCH FOR PROCESSING NO LATER THEN 70 MINUTES BEFORE ETD

Order Details

Name:---------- Staff Number:---------- Rank:----------

Authorisation Number: _____Type of special meal_____SPMLNo: _____

Date:_____ Flight:_____

Date:_____ Flight:_____

Date:_____ Flight:_____

Date:_____ Flight:_____

Instructions for Crew:

- Ensure that you have ordered a special meal for each sector in your operating pattern in accordance with your entitlement.
- Complete this form, sign it and hand it to Crew Dispatch who will telex it to appropriate in flight caterer on your behalf.

Instructions for Dispatch Staff:

- Telex the order to LSG Sita <HKGHHXH> copy to <HKGHHKA> no later than 70 minutes before the flight.
- If the order requires a special meal out of PEK, MNL or BLR, copy the telex to PEKKKKA / MNLKKKA / BLRKKKA respectively.
- Call LSG at 27526241/27526251 to confirm receipt of the order.

Signed

14.3 COMPANY PROPERTY

14.3.1 REMOVAL OF ITEMS FROM AIRCRAFT

Crewmembers are not to remove. Items which are the property of DRAGONAIR from the aircraft at the end of the Flight Duty Period. This includes, but is not restricted to, beverages, food and toiletries.

14.4 CHANGE OF PERSONAL DETAILS

Crewmembers who change their telephone contact numbers, travel document numbers or personal details are to inform the Company through Crew Direct so as to allow CX ODC ICM – Reassignment and Control and Aircrew Personnel to update the related systems.

The Crew Entry and Exit Declaration Form lists the name, DOB and passport number of the operating crew and is printed approximately 15 minutes before reporting time. It is placed on the flight briefing table along with other briefing material. Crewmembers are to check this form for the accuracy of their personal details and advise ICM – Reassignment and Control if there are any discrepancies.

Failure to follow the steps above has historically resulted in a fine by the PRC Immigration Department. It is therefore imperative that Officers action changes promptly and accurately. Fines incurred due to a crewmember's failure to notify the Company will be charged to his account.

14.5 MANAGEMENT/POST/TRAINING APPOINTMENT

Appointment for all management/post positions for aircrew will be for a maximum period of two years and may be renewable.

Line training appointments will be made for a maximum period of two years, but will automatically terminate if the officer changes type. Authorised Examiner appointments will be for the period of the CAD approval, normally thirty six months, but will also automatically terminate if the officer changes type.

At the end of this period the incumbent may apply for re-appointment, but such re-appointment will not be automatic. In addition to considerations of personal performance is the need to ensure the development of a broad base of aircrew personnel in such positions. All appointments may be terminated at any time by the Company or the individual at one month notice.

14.6 CREW REPORTING

14.6.1 FLIGHT TIME LIMITATION SCHEME

All crewmembers are required to be familiar, and comply, with the requirements of the company Approved Flight Time Limitations Scheme detailed in OM Part A Chapter 7.

Company policy prohibits crewmembers from carrying out any flying duties for any organization other than Dragonair. This restriction does not apply to private flying for leisure purposes carried out in an aircraft with an MTOW less than 1600kg.

14.6.2 CREW CHANNEL

The crew channel is located on the ground floor of KA house to the rear of the Flight Training Center. The crew channel provides CIQ and security facilities at KA house for crews dispatching directly to the aircraft after briefing.

The crew channel is open from 0645hrs until 2145hrs. Crewmembers with sign on times outside the hours of 0630hrs and 2100hrs are to assemble with cabin crew as normal at the rear exit of the briefing office then proceed to the FTC building entrance to take the prearranged transport to PTB for CIQ and security checks. Once through CIQ the crew is to proceed to Gate 521 and pick up the HAS transport which will take them to the aircraft.

14.6.3 CREW CHANNEL - BRIEFING SEQUENCE

Fifteen minutes is allocated for crew briefing. Cabin crew briefing is coordinated to be completed concurrently with the flight deck crew briefing. The FA1 will inform the Captain shortly before the end of the briefing time that the Cabin Crew are ready to leave. The Flight Deck crew and the Cabin Crew are to assemble at the side exit to Level 1 (adjacent to the Flight Simulator Building) and proceed to the Crew Channel at STD ({-55}) [-60] minutes. Five minutes is allocated for the transit from the Briefing Office through the Crew Channel to the crew bus. Ten minutes is allocated to the bus ride from the crew channel to the aircraft.

14.6.4 CREW REPORTING

Flight crew signing on ex Hong Kong should normally sign in for their flight at the main desk, in the Briefing Room, before reading Notice books etc.

This procedure enables despatch staff to monitor crew signing in and timing and helps to reduce crew-induced delays.

a. Line, Training and Check Flights

At HKG, crewmembers are required to report to the KA House Briefing Office at the following times:

i. For A320/321 aircraft

70 minutes before STD (Flight Attendants report 70 minutes before STD)

ii. For A330 aircraft

75 minutes before STD (Flight Attendants report 80 minutes before STD).

For HKG turnaround flights, crewmembers should be on board by STD ({-40})[-45] minutes.

At outports, crewmembers are required to report at the airport, or where designated by the Company, 60 minutes before STD for all flights for both pilots and Flight Attendants. Appropriate transport will be provided to carry operating crew between crew hotels and airport terminals at a time designated by Flight Operations. Hotel pick-up times are not to be changed except in extenuating circumstances and Crew Control would need to be advised about the same.

b. Positioning Flights

Crewmembers positioning from HKG on Company aircraft are to report to duty at the KA House Briefing Office 30 minutes before STD and proceed through CIQ / Security via the crew channel. Transport will be arranged to depart the crew channel for airside at 25 minutes before STD.

Crewmembers positioning from an outport on Company aircraft are to report to the aircraft or airport, as required, 60 minutes before STD, or such time as notified to the crew member.

Crewmembers positioning on aircraft of other Companies are to report to the flight check-in counter 90 minutes before STD, or such time as notified to the crew member.

c. Test Flights

At HKG and Outports crewmembers are required to report at the following times:

i. 120 minutes before STD for A320/1 air tests

ii. 150 minutes before STD for A330 air tests

For the purposes of Flight Time and Duty calculations, the duty time will end at on blocks plus 3 hours.

14.6.5 STANDBY COVER

When called out from standby, crewmembers will be required to report to either the Dragonair House Briefing Office (BO) or directly to the aircraft. The company will endeavor to give as much notice as possible of call out. However, crewmembers must be prepared to report to the assigned place of duty (either the KA BO or the aircraft) as soon as possible but no later than 2 hrs from the time of call out.

ICM – Reassignment and Control will initiate the call out and pass flight details including scheduled departure time to the crewmember.

If instructed to report directly to the BO in Dragonair house, the crewmember is to:

a. Complete all the flight preparation and then proceed to the aircraft.

If instructed to report directly to the aircraft, the crewmember is to:

a. Call ICM – Reassignment and Control (2747 8800) on arrival at the PTB to check the gate number of the aircraft.

b. The crewmember who arrives first at the aircraft is to complete all the normal pre-departure checks and preparations (including exterior inspection).

c. Passenger boarding is to proceed in accordance with the Precision Timing Schedule (PTS) unless there is a probability of an extended delay before the second crewmember arrives at the aircraft.

d. Liaise with ICM – Reassignment and Control for progress of the other crewmember.

The crewmember who has not been to the briefing room should check the flight documentation prior to departure.

14.6.6 REPORTING DURING TYPHOONS - GENERAL ARRANGEMENTS

Manager Aircrew (MA) will publish an FCN at the commencement of the Typhoon season to detail the crew reporting procedures for Typhoons.

14.6.7 REPORTING DURING TYPHOONS - TRANSPORT FACILITIES

In the event of an impending Typhoon, the Airport Land Link Closure Committee - chaired by the Transport Bureau and comprising of the bridge operator and all

transport operators - will convene. This committee would then make decisions on the operation of airport related transport systems based on contingency plans.

The Tsing Ma bridge link is critical in this decision making process. It has a lower road deck which allows passage of vehicular traffic up to wind speeds of 90km per hour. As conditions deteriorate, police will divert traffic to the lower deck when specific wind speeds are reached. The rail link, of course, always crosses the bridge by the lower deck.

At the airport, as conditions worsen, Bus Company's will initiate contingency plans in accordance with decisions made by the committee. The general concept is to set up shuttle services linking the AEL terminal, Tung Chung MTR station, KA house, Cathay City and other key points at roughly 30-minute intervals. Therefore, as long as the bridge remains open, travel is possible by rail to the Airport or Tung Chung AEL/MTR Stations and contingency bus services will operate a shuttle service linking the key points in the greater CLK area including KA house. The 24hr customer hotline for Kwoon Chung Bus Co is 2570 9009.

For those who live in DB, the ferry may stop operating at Typhoon signal 3 and possibly beforehand if the sea state is heavy. The bus service will cease when the drivers consider the roads too dangerous - most probably at Typhoon signal 8. Crews must therefore be vigilant for changes in weather conditions and it would be sensible to consider vacating DB before Typhoon signal 8 is hoisted.

All crewmembers are to ensure that when typhoon signals are hoisted they have made suitable transport arrangements to report for rostered duties.

14.6.8 DIVERSION KIT

Crewmembers may be called out from standby duty to conduct an overnight duty or be rescheduled onto an overnight duty at short notice. Crewmembers are therefore advised that it is common sense to carry a basic "diversion kit" at all times in anticipation of an unscheduled night stop or a diversion.

14.6.9 CREWS DELAYED BOARDING

In the event that the outbound crew is delayed in boarding the aircraft for any reason, the inbound crew is to take any steps necessary to minimize delay. This may include full cockpit preparation. In the case of refueling, the bowser should be retained if possible for the new commander to "top up" if he wishes.

14.7 CREW CONTACTABILITY

14.7.1 CREW CONTACT - GENERAL

Crewmembers are to have as a minimum either a fixed land line or a mobile phone and e-mail access in order to facilitate communications with the Company. Crewmembers are to keep the Company informed of contact details in accordance with the instructions at Part A 14.4.

Crewmembers are to ensure that they keep themselves apprised of their assigned duty and keep their lines of communication open during a duty cycle. Specific communication instructions are as follows:

a. Captains are to call ICM – Reassignment and Control on arrival at Hong Kong prior to the dispersal of the crew in order to check for any change in the duty of his Flight Deck crewmembers. Prior to crew check out, crewmembers who have a change of duty are to acknowledge that change directly with ICM – Reassignment and Control.

b. During Standby duty, crewmembers are to be contactable on call by fixed telephone or mobile phone throughout the period of standby duty.

c. Crewmembers positioning or deadheading back to Hong Kong are to call Crew Control on arrival at Hong Kong in order to be informed of any changes to duty.

After completing any Simulator training session, crewmembers are to contact ICM – Reassignment and Control in order to be informed of any change of duty. It is necessary that one of the crewmembers undergoing Training calls on behalf of the group and any updates would be relayed to the Training crewmembers through him/her.

ICM – Reassignment and Control may contact a crewmember via ACARS to inform him of a subsequent change in duty. The crewmember should respond to such an ACARS message as soon as practicable; the response will be considered as formal acknowledgement of the change in duty.

14.7.2 CONTACT AT OUTPORTS

The procedure for contacting crews at outports in the event of a change of schedule is as follows:

Crew Control will send a message detailing a change in schedule to the hotel together with a list of the flight crew who need to be informed.

The hotel is to make a copy of the message and pass it to the crewmembers concerned as follows:

a. The message is to be slipped under the door of the crewmember's room.

b. The duty manager is to illuminate the message light in the crewmember's room indicating that there is a message outlining a change in schedule.

c. Hotel staff will be instructed **not to make** a telephone call to the crewmember.

The wakeup call will remain at the time as originally requested by the crew unless Crew Control insist that it must be changed. In these circumstances, Crew Control is to instruct Hotel Management to change the wake up call to a new specific time.

If a crewmember calls the operator after seeing the message light, the operator should tell him/her that a message outlining a change in schedule has been delivered to his/her room. Hotel staff have been instructed not to pass the contents of the message over the telephone to the crewmember.

It is **not** necessary for individual crewmembers to acknowledge receipt of change with Crew Control.

14.8 TELEPHONE LINE RECORDING

14.8.1 INTRODUCTION

Operations Division records conversations between crewmembers and Operations Division staff on specified lines into ICM – Reassignment and Control and the Integrated Operations Center (IOC) Unit B (Dragonair). The conversations are restricted to exchanging operational information and thus do not fall within the bounds of the guidelines issued by the Privacy Commissioner on the management of Personal Data at Work.

14.8.2 INFORMATION RECORDED

Specific lines have been linked to a system which records conversations between crewmembers and Operations Staff. The purpose of doing so is to retain a record of the passing of orders, instructions and information to crewmembers and all other agencies relating to the Company's operation.

These recordings provide evidence of the exchange of crew related operational instructions. It allows the subsequent resolution of any dispute on the information exchanged.

Operations staff in ICM – Reassignment and Control and the IOC Unit B (Dragonair) will establish only the name and staff number of the crewmember before the exchange of operational information commences. No other personal data will be requested or is indeed required to be exchanged on these lines.

14.8.3 RECORDED LINES

The telephone lines which record information in the IOC Unit B (Dragonair) are 27478811/27478833.

The telephone lines which record information in ICM – Reassignment and Control are as follows:

a. Toll free No (North China): 10800 852 1441

b. Toll free No (South China): 10800 152 1441

c. Airbus Officers 27478800

d. Cabin Crew 27478886

e. Help Desk 3193 3388

14.8.4 ACCESS TO RECORDED INFORMATION

Access to the recorded information is restricted to MA, FCRM, DOM, IOC Unit B (Dragonair), and ICM – Reassignment and Control staff and a small number of administrative staff who have been trained to operate the system. In times of dispute, the crewmember concerned may have access to the recording by submitting a request to MA or FCRM.

14.9 CREW ROSTERS

14.9.1 CREW ROSTER

The crew roster is issued by the CX ICM – Scheduling Department on a monthly basis in the month prior to the duty. In the event of a change of duty, ICM – Reassignment and Control will update the individual's roster on Crew Direct.

The roster displayed on Crew Direct will include real time changes to the published roster. Upon access to Crew Direct, crewmembers will be advised of any unacknowledged roster changes. These changes will then be acknowledged on entering the system and the updated "real time" roster can then be viewed. This constitutes an acknowledgement of the change.

It is the responsibility of the individual crewmember to ensure that he reports for duty as assigned, therefore regular access to Crew Direct is essential.

14.9.2 INFRINGEMENT OF A GUARANTEED DAY OFF (GDO)

In accordance with the current Rostering Practices Agreement (RPA), a crewmember may be required to work on a GDO as a result of a disruption situation.

14.9.3 REQUESTS TO WORK ON A GUARANTEED DAY OFF (GDO)

In accordance with the current RPA a crewmember may be requested to work on a GDO.

ICM – Reassignment and Control may request a crewmember to perform a duty on a GDO which is not designated as a mandatory rest day.

A crewmember who agrees to a request to work on a GDO or is required to work on a GDO as per Part A 14.9.2 will be paid GDO compensation in accordance with the following scales:

Base	Currency	Captain	FO	JFO / SO
Hong Kong Based Crew	$ HKG	4500	3000	2000

However, crewmembers are to note that financial compensation will not be admissible for working on a GDO when a crewmember is under training. Under these circumstances, a compensatory day off will be assigned as required by the appropriate Training Manager.

Managerial staff who agree to work in the Office on a GDO will be assigned a replacement GDO as mutually agreed by the crewmember concerned and ICM.

14.9.4 SICKNESS ON A DDO

A DDO lost to sickness is not recoverable

14.9.5 CREW ABSENCE FROM HKG ON O DAYS

A crewmember who wishes to be absent from Hong Kong during a period which contains rostered O days is to contact ICM – Reassignment and Control Manager prior to departure to confirm that no rostered duties have been or might be, assigned for the O Day. Such calls or advice will be logged by ICM – Reassignment and Control Manager.

Return to HKG after any absence is subject to the Applicable Conditions of Service clause.

14.9.6 CREW ROSTER SWAPS

Crewmembers may arrange mutually agreed roster swaps. Requests for Mutual Exchange of Duty need to be submitted via Crew Direct.

14.10 MEDICAL PROCEDURES

14.10.1 REPORTING UNFIT FOR DUTY

Officers who report unfit for duty are to raise a Leave Application Form for all sick leave taken; the Officer concerned is to submit the completed Leave Application Form to the Flight Operations Officer (FOO) on level 2 within 7 days of return to duty. If the period of sickness exceeds 3 days, then a doctor's note is mandatory and is to be submitted to the FOO together with the Leave Application Form.

If the period of sickness is 3 days or less, then a doctor's sick note is preferable. If it is not possible to provide a sick note, then a self-diagnosis of the aliment is to be entered by the Officer concerned in the "remarks" column of the Leave Application Form. The Company may on specific occasions insist on a doctor's sick note for a period of 3 days or less.

Officers are to ensure that all sick notes and medical reports are submitted in English or accompanied by a legible translation.

14.10.2 RETURN TO DUTY AFTER SHORT PERIODS OF SICKNESS

Officers who are unfit for duty are to report the facts to ICM – Reassignment and Control stating the predicted number of days sickness. Based on this information, ICM – Reassignment and Control will make the appropriate roster changes and plan for return to duty.

If nothing is heard by 1630hrs on the day before the date predicted for return to duty, then it will be assumed that the Officer concerned will be fit for duty the next day as rostered.

Should there be an extension to the predicted date of return to duty, the Officer concerned is to notify ICM – Reassignment and Control no later than 1630hrs on the day before the original predicted date of return to duty. If possible, more notice of a change of date would be appreciated by planning staffs

Officers will be advised of any change to duty after 1630hrs on the day before the date of return to duty. Although ICM – Reassignment and Control and IOC will endeavor not to disturb individuals during sickness, under exceptional circumstances it may be mutually beneficial to inform crew of changes of duty at an earlier stage. Officers are therefore to keep normal lines of communication open throughout the period of sickness.

Officers are to inform the Flight Crew Relations Manager (FCRM) - if an ailment is likely to become serious and may ultimately require notification to the CAD.

14.10.3 TEMPORARY SUSPENSION OF MEDICAL CERTIFICATES

In accordance with article 20 (8) of the AN (HK) O 1995, the CAD will suspend a medical certificate under the following circumstances:

a. Immediately in the event of personal injury which prevents an individual from carrying out duty as a member of the flight crew (The CAD define surgery as an injury).

b. After a period of 20 days has elapsed in the event of an illness which prevents an individual from carrying out duty as a member of the flight crew.

c. Immediately in the case of pregnancy.

It is the responsibility of the Officer concerned to inform the CAD of injury or pregnancy as soon as possible and of a protracted illness after 20 days. The CAD will inform the Officer in writing that the medical certificate has been temporarily suspended and will issue instructions on the administrative process required to return to flying duties.

To this end, an Officer whose medical certificate has been suspended or anticipates that his / her medical certificate may be suspended is to contact the FCRM without delay in order to collect a copy of the guidelines on the procedures that must be followed in order to lift the suspension of the medical certificate. This is a mandatory requirement.

Whilst it is entirely an individual Officers responsibility to arrange the reinstatement of a medical certificate, the road to recovery is often lined with pitfalls. Therefore, the Officer concerned is to maintain regular contact with FCRM in order to prepare and plan the smoothest possible process for return to duty. The guidelines issued by the FCRM address both CAD and Company requirements on all aspects of the process of return to duty and will be tailored to meet the particular circumstances of the Officer concerned.

Notwithstanding any medical assessment from any other qualified medical practitioner, only the CAD Approved Medical Assessor (AMA) is authorized to reinstate a temporarily suspended medical certificate. Until such time, the Officer concerned is deemed unfit for flying duties and will remain on sick leave.

14.10.4 ELECTIVE SURGERY

It is recognized that from time to time that in order to maintain a valid medical certificate, Officers will need to undergo treatment for conditions which are not immediately urgent but will require serious attention in the future. This is defined as elective surgery. Under these circumstances Officers are to provide a medical assessment of the effect that the condition would have on flying abilities if left untreated.

As a general guideline, Officers who need to undergo elective surgery are to inform the FCRM at least 2 months before surgery is required so that mutually agreed time scales for treatment and leave can be agreed. The medical assessment will be the guiding factor on the urgency of the situation. For the avoidance of doubt, if an appointment for elective surgery is made without prior consultation with the FCRM, then time off for treatment may not be negotiable and the appointment may have to be changed.

The CAD defines surgery as a “controlled injury”. Accordingly, an Officer undergoing elective surgery will generally have his / her medical certificate temporarily suspended until a full recovery is made. Officers are therefore to observe the guidelines at Part A 14.9.4 on the restoration of suspended medical certificates.

It is emphasized that this instruction applies solely to courses of treatment which can be anticipated within the general definition of elective surgery. It does not in any way affect standard sickness procedures.

14.10.5 ABSENCE FROM HONG KONG

In all cases, Officers who have been assessed as medically unfit for duty are to consult with the FCRM before leaving the Hong Kong SAR during the period of sick leave.

14.10.6 COMMUNICATIONS DURING SICK LEAVE

In all cases, Officers who have been assessed as medically unfit for duty are to maintain normal lines of communication with the Company and comply with any contact arrangements agreed with the FCRM as part of the recovery process. If no special arrangement has been agreed, the Officer concerned is to update the FCRM on his / her condition every three working days.

14.10.7 VALIDITY/CLASS OF MEDICAL CERTIFICATES

The requirements regarding the class and validity of medical certificates are as follows:

License	Class of Medical Certificate	Validity/Months
CPL/ATPL under 60	1	12
CPL / ATPL 60 or over	1	6

14.11 CARRIAGE OF POST/PARCELS

Under no circumstance may Dragonair employees carry non-company post or parcels from one country to another on behalf of another person.

14.12 STATEMENTS TO PRESS

Statements to the press, radio or television on Company matters are not to be made under any circumstances without prior permission from the Company.

14.13 MAXIMUM AGE FOR RETENTION OF EMPLOYMENT AS FLIGHT CREW

Flight crew who have attained their 60th birthday may continue to operate provided the following conditions are met:

1. The flight crew member has not attained his 65th birthday.
2. The flight crew member acts as the Commander/PIC or as a co-pilot in an operation with more than one flight crew member and is the only flight crew member at the controls who has attained their 60th birthday.

14.14 VACANT CABIN CREW SEATS

14.14.1 CHECK-IN AND BOARDING PROCEDURE

Qualified staff who wish to request the use of a vacant Cabin Crew seat shall do so at the staff Standby Desk no later than STD minus 60 minutes.

Staff shall have wait-listed for the flight.

After registration, requests for change of seats shall not be permitted.

Normal seniority/ticket priority shall apply for issue of boarding passes. Boarding passes shall be issued at around STD minus 50 minutes, subject to payload limitations.

The Commander and FA1 shall be informed of allocated vacant Cabin Crew Seats.

Once on-board the aircraft, staff shall produce a valid Certificate of Competency, or KA/CX ID card (crew members only – white background).

After doors are closed, the FA1 may allocate any vacant passenger seat to persons seated on vacant Cabin Crew seats, subject to class of ticket and/or seniority.

Note: For CX A340-300 and B777-300ER regional operations, flight crew rest seats may be treated as vacant cabin crew seats at the discretion of the Commander.

14.14.1.1 VACANT CABIN CREW SEAT TABLE – DRAGONAIR AIRCRAFT

Aircraft Type	Total Number of Crew Seat for Taxi/ Take-off/ Landing	Crew Complement on Full Load Flight and Vacant Crew Seat							
		Crew Complement on Long / Med Sector	*Vacant Crew Seat	Crew Complement on Short Sector	*Vacant Crew Seat	Beverage Flight	*Vacant Crew Seat	Cold Snack Flight	*Vacant Crew Seat
A33R (HYB / HYD / HYF / HYG / HYI)	14	13	①R4B	12	①R4B ②L4B	11	①R4B ②R4A ③L1A	13	Nil
A33R (HYJ / HYQ)	13		Nil		①L4B		①R4A ②L1A		Nil
A33A	14	12	①L1A ②AC	11	①L4B ②L1A ③AC	12	①L1A ②AC	13	①AC
A33L	13	11	①L1A ②R4A	10	①L4B ②L1A ③R4A	11	①L1A ②R4A	12	①L1A
A33C	13	12	①L1A	11	①AC ②L1A	12	①L1A	13	Nil
A321	9	7	①R4A	6	①R4A	5	①R4A	8	①R4A

Aircraft Type	Total Number of Crew Seat	Crew Complement on Full Load Flight and Vacant Crew Seat							
		Long Sector (except TAO) + HAN / HGH / PVG / SHA	*Vacant Crew Seat	TAO + Med Sector (except HAN / HGH / PVG / SHA) +Short Sector	*Vacant Crew Seat	Beverage Flight	*Vacant Crew Seat	Cold Snack Flight	*Vacant Crew Seat
A320	6	6	Nil	5	①R2A	4	①R2A	6	Nil

* Only the designated crew seats listed in the above table can be released when they are vacant.
* The designated crew seats must be released according to the priority number for the preparation of the weight and balance loadsheet.

Note: The criteria for selecting the above designated crew seats are:

1) Those seats must not be a door primary seat.
2) While the crew seat is occupied, it will not be a potential obstruction to the operating crew during evacuation.

INTENTIONALLY BLANK