



Training Manual

APPENDIX G
ORIG.00
5MAY07

OPERATIONS MANUAL

Part 4

APPENDIX G

ABC AIRLINE

FLIGHT DISPATCH TRAINING COURSE



♣ Note:

EXAMPLE / TEMPLATE FOR FLIGHT DISPATCH TRAINING

This Document Is Intended For Use In Conjunction With:

- *Advisory Circular CA AOC-AC-FO-019: "Training Program Approval Process" - Technical Guidance Material For Operators and*
- *TGM CA AOC-FO-005: "Training Program Approval Process" - Technical Guidance Material For Flight Operations Inspectors*
- *TGM CA AOC-016: "Operational Control. (Dispatch, Flight Release, Flight Following.)" guidance material for all.*


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COMPANY FLIGHT DISPATCHERS COURSE

I. Objective:

To meet CAR 121.03 requirements and impart the required knowledge to ABC AIRLINE's Flight Dispatch personnel, joining the airline, and current staff in order to meet the airlines policies and procedures associated with flight dispatch and operations.

II. PRE-REQUISITES

This course is intended to the following operations personnel joining ABC AIRLINE for Initial Training or as experienced personnel hired from the industry:

- a) Flight Crewmembers;
- b) Flight dispatchers;
- c) Other operations personnel.


There are no pre-requisites of experience established to attend this course.

III. COURSEWARE AND TRAINING AIDS

- A. AP3456 Manual System (or equivalent)
- B. Video Cassette Recordings on Flight Dispatch and Operations / DVDs / Audio Visual Presentations PowerPoint / OHP.
- C. Aeronautical Publications.
- D. SA CAR and CATS.
- E. Cockpit Panel Layouts and Photographs
- F. Flight Operations Manual. (Flight Deck Crew)
- G. Cabin Crew Members Manual.
- H. Operational Control Manual (Dispatchers)
- I. Training Manuals
- J. Lesson Plans
- K. Emergency Equipment relevant to Aircraft Type.
- L. Aircraft / Approved Training Device / Simulator.

IV. INSTRUCTIONAL DELIVERY METHODS

- A. Lecture
- B. Discussion
- C. Approved Home Study – A requirement in addition to the Module hourly time.

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- D. Practical Training on actual aircraft or approved representative training device / Simulator
- E. Computer Based Training.

V. TRAINING MODULES

MODULES	
COMPANY DISPATCH COURSE	HOURS
1 - Navigation General:.	16:00
2 - Aviation Meteorology.	16:00
3 - Radio and Radio Aids	16:00
4 -. Aircraft Weight and Balance Control	24:00
5 – Principles of Flight & Aircraft performance	24:00
6 – Flight Planning.	24:00
7 - ETOPS (available only as a 3 day stand alone module for suitably qualified and experienced staff)	24:00
8 - Supplementary reference	8:00
9 – Flight Experience	16:00
TOTAL TRAINING HOURS	144:00

VI. TRAINING CURRICULUM

• MODULE 1: NAVIGATION GENERAL:

Terrestrial sphere

- Latitude
- Longitude
- Distance

Lines on the Earth

- Great circles
- Small circles
- Equator
- Rhumb lines

Map Projections

- Lamberts Conformal
- Mercator projection
- Polar stereographic

Time

International Standard atmosphere

Total temperature at ISA

Measurement of Speed

- Static/dynamic pressure
- Total pressure
- IAS
- RAS
- TAS
- MACH

Pressure Altimeter

Density Altitude

Altimeter setting procedures

RADAR control

Triangle of Velocities

- CR3 wind side calculations
- CR3 calculator side

Air Traffic Services

Separation Standards

MACH number technique

Rules, Regulations and AIS

Subdivision of Airspace

- Classification of airspace
- NOTAM code/decode
- ICAO Abbreviations
- Jeppesen documentation
- ATS Route designators
- Navigation and Route Planning
- Wake turbulence
- ATC Clearances / Completion of
- Use of repetitive ATC flight plans (RPL)
- MNPS
- RVSM
- Flight Operations and Procedures
- Holding patterns
- Instrument approach procedures

• **MODULE 2: AVIATION METEOROLOGY**

- Properties of the Atmosphere
- Atmospheric Pressure
- Temperature
- Water Vapour and Humidity
- Visibility
- Global winds
- Winds and Local Topography
- Jet Streams
- Vertical Air Motion
- Wind shear awareness
- Precipitation
- Temperature and Adiabatic Lapse Rates
- The role of latent heat
- Atmospheric Stability
- Cloud Forming Processes
- Cloud classification
- Thunderstorms
- Lightning
- Air Masses
- Frontal Systems
- Icing and Ice Accretion
- Tropical and Equatorial Weather
- Aviation Weather Report Formats

- TAF
- METAR

- SPECI
- SIGMET
- ROFOR
- AIREP
- ARFOR
- SAFOR
- SNOWTAM
- Station Circles

ICAO Annex 3: Operationally Desirable Forecast Accuracy

Aerodrome Operating Minima

ICAO Annex 3: Standard Reporting Models

ICAO Annex 3: Application of meteorological data for pre-flight planning

WMO METAR decode tables

WMO TAF decode tables

• **MODULE 3: RADIO AND RADIO AIDS**

Introduction to radio

- Wavelength-frequency relationship
- Frequency bands
- Audio and Radio frequencies
- Sidebands
- Classification of emissions
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The Ionosphere

- Effect on radio waves
- Radio waves – properties and propagation
- Ground waves
- Sky waves
- Direct waves

Radio Communication

- HF communication
- VHF communication

Radio aids

- True direction
- Magnetic direction
- Magnetic variation
- RDF radio direction finding

- NDB non-directional beacons
- Marker beacons
- ILS instrument landing systems
- VOR VHF omni-directional beacons
- RADAR general
- Ground RADAR
- SSR secondary surveillance RADAR
- Radio altimeter
- GPWS ground proximity warning systems
- DME distance measuring equipment
- Airborne weather RADAR
- DOPPLER
- DECCA/LORAN/OMEGA area coverage systems
- INS inertial navigation systems
- GPS global positioning systems
- TCAS traffic collision avoidance systems
- ACARS aircraft communications addressing/reporting systems
- RNAV/RNP area navigation and required navigation performance

FANS future air navigation systems

● **MODULE 4: AIRCRAFT WEIGHT AND BALANCE CONTROL**

Weight and balance control

Aircraft weight build up

Balance and structure

Principle of centre of gravity

Mean aerodynamic chord

Centre of gravity range

Centre of gravity limits

Manual wide body load planning/loadsheets

Manual wide body trim

MODULE 5: Principles of Flight & Aircraft performance

Aerodynamics

Lift

Thrust

Drag

Principles of flight

Forces and moments

Reference datum

Body reference planes

Design weight definitions

Operational weight definitions

Aircraft performance general



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Takeoff limitations
Take off speeds
Take off distances
Take off flight paths
Non standard days
Aircraft take-off performance data presentation

- Runway performance analysis
- Thrust settings
- Approach and landing

Miscellaneous take-off performance concepts
B747-200 Aircraft Operations Manual

- Operation on precipitation covered runways
- Operation with brakes deactivated
- Operation with anti-skid inoperative
- Minimum ground control speeds

Cost index, ECON and cruise control
Aircraft performance management system - PMS

MODULE 6: FLIGHT PLANNING

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Generic flight planning fuel policy
Aircraft weight considerations
Manual flight planning data
Semi-circular rules
Redispatch/in-flight reclearance operations
Point of no return (PNR) time and fuel calculations
Critical point (CP) time and fuel calculations
Aircraft take-off and landing performance data
Aircraft refuelling manual
Dispatch release /Fuel and water order form
Aircraft specifications
Manual flight planning aircraft data sheets:

- B737-500
- B727-100
- A320-231
- B707-344 B/C
- B757-200
- B767-200
- DC10-30
- B747-200
- B747-300



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- B747-400

CAA SA-CATS-OPS 91.07.12 Fuel Policy

En-route alternate location

- **MODULE 7: ETOPS**

Overview of twin engined operations

Global limits

Grandfather rights

Operational approvals and training

Principles of dispatch

Adequate versus suitable airports

Alternate filing minima

Effects of downgraded equipment and facilities

Location of equitime points

ETOPS fuel policy

CAA authorisations

CAA regulations

Areas of operation

Aircraft engine inoperative performance

Study plans

Manual plotting

Jeppesen airport plate analysis

Company FOM

JAA IL 20-1

ETOPS/LROPS

- **MODULE 8: SUPPLEMENTARY REFERENCE**

Air operator certificates

Dangerous goods awareness

Categorization of Airfield fire and rescue facilities

Company operations manual

Slot allocation and flow control

Eurocontrol and IFPS

RVSM

MNPS

Authority of the commander


Airline Operations Control

Bilateral agreements

IATA AHM810 SGHA

CAA legislative authorities

Supplementary information:

 <p>ABC Airline TRAINING MANUAL</p>	<p>Training Manual</p>	<p>APPENDIX G ORIG.00 5MAY07</p>
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Course content and syllabus is AFRAA approved and presented in full compliance with ICAO Doc 7192 Part D3 1998.

Where appropriate, all modules are reinforced with professional audio-visual material and extensive practical exercise.

Progress tests are conducted regularly in all modules except Supplementary Reference. Candidates are expected to exhibit an upward learning curve progression, and in the interests of class progress, candidates who fail to exhibit satisfactory progress may have their attendance terminated.

Numeracy equivalent to at least Senior Secondary grade 12 SG mathematics is recommended. Above average communication skills and literacy in English is a requirement.

Comprehensive examinations are conducted for all subjects except Supplementary Reference subjects; an examination pass mark of 80% in each subject is required for certification. An overall final examination aggregate of at least 75% is required to qualify for examination rewrites. Only one attempt at a maximum of three subjects in a supplementary examination is permitted.

In keeping with international best practice, certification is issued only on successful completion of the course.

MODULE 9: FLIGHT EXPERIENCE

On successful completion of the course the dispatcher should accompany a company aircraft on a representative flight as a supernumerary crew member. A representative flight would be a pairing involving ETOPS, RVSM, MNPS etc. if applicable.