

INITIAL GROUND TRAINING

OPERATIONS MANUAL

Part 4

APPENDIX B

ABC AIRLINE

B737-300

INITIAL GROUND TRAINING



*** Note:**

EXAMPLE / TEMPLATE FOR INITIAL GROUND 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" - for Flight Operations Inspectors*



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ORIG.00
5MAY07**

INITIAL GROUND TRAINING

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SUBJECT

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INITIAL GROUND TRAINING

INITIAL GROUND TRAINING

130:00 HOURS

I. OBJECTIVE:

This programme is developed to meet SA CAR 121.03.1 and 121.03.3 requirements and to help achieve a level of training in aspects of **flight crew** applicable to their duties, the type of operations conducted and aircraft flown.

II. PRE-REQUISITES

All candidates for this course must have at least:


- A. A multi-engine ATPL license with minimum of 5,000 hours for PIC with 500 hrs on type, or at least a Commercial license with 1,500 hours for SIC
- B. Good knowledge of the English languages

III. COURSEWARE

- A. Video Cassette recordings / Audio Visual Presentations
- B. B-737 Cockpit Panel Layouts and Photographs
- C. Flight Aircraft Operating Manual (AOM), MEL, AIP, AFM, Jeppesen
- D. SA CAR
- E. Lesson Plans, Student Handouts

IV. INSTRUCTIONAL DELIVERY METHODS

- A. Lecture
- B. Discussion
- C. Practical exercises, demonstrations.
- D. Approved Home Study
- E. CBT

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INITIAL GROUND TRAINING

V. GROUND SCHOOL CURRICULUM SEGMENTS:

MODULES	HOURS
CLASSROOM TRAINING MODULES	82:00
General Subjects	17:00
Aircraft General	4:00
Non-Emergency Equipment/Furnishings	2:00
Power plants	4:00
Auxiliary Power Unit	2:00
Air Systems	7:00
Electrical System	5:00
Hydraulic Systems	3:00
Landing Gear and Brakes	3:00
Flight Control Systems	3:00
Fuel System	3:00
Ice and Rain Protection	2:00
Flight Instruments and Displays	3:00
Communications Equipment	2:00
Flight Management, Navigation	7:00
Automatic Flight	3:00
Warning Systems	2:00
Emergency Equipment	2:00
Cockpit Resource Management	4:00
Review and Examination	4:00
CPT TRAINING MODULES	24:00
EMERGENCY TRAINING MODULE	14:00
DANGEROUS GOODS RECOGNITION	2:00
SECURITY TRAINING	8:00
TOTAL INITIAL GROUND TRAINING HOURS	130:00

INITIAL GROUND TRAINING

CLASSROOM TRAINING MODULES AND ELEMENTS

82:00 HOURS

I. GENERAL SUBJECTS

17:00 HOURS

- A. Flight Release Procedures, Flight Planning.
- B. Weight and Balance, and Runway Limitations for Takeoff and Landing.
- C. Meteorology (Adverse Weather Procedures).
 - 1. Weather Phenomena.
 - 2. Frontal Systems / Squall Lines.
 - 3. Fog.
 - 4. High Altitude Weather Situations.
 - 5. Low Visibility
 - 6. Contaminated Runways, to include operations in Ice, Slush and Snow
 - 7. Severe Weather Situations.
 - a) Microburst.
 - b) Thunderstorms.
 - c) Windshear (Recognition, Avoiding, Escaping from severe weather situations, including low-level windshear).
 - d) Turbulent Air (CAT).
 - e) Icing/Hail/Heavy Precipitation.
- D. International Navigation / Communication Procedures.
 - 1. RVSM
 - 2. RNP
 - 3. Enroute Communications.
 - a) HF/VHF.
 - b) Stockholm Radio.
 - 4. Operations
 - a) Company communication requirements.
 - b) Specific ATC clearance requirements.
 - c) Area departure and arrival requirements.
 - d) Enroute Operations
 - e) Approach and landing requirements.
- E. Performance.
 - 1. Review of Weights.
 - 2. Design Speeds.
 - 3. Performance Profiles.
 - 4. Use of Performance charts, tables, tabulated data, Data Extraction, and other related manual information to include FMC.
 - a) Takeoff and Landing Analysis.
 - b) Meteorological and weight-limiting performance factors such as temperature, pressure, contaminated runways, precipitation and climb/runway limits.



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- c) Normal, Non normal, emergency problems.
 5. Operating Limitations.
 6. MEL / CDL.
 7. Special operational conditions such as high altitude airports and driftdown requirements. Jet Transport Characteristics.
- F. Operations Specifications.
1. Authorizations.
 2. Limitations.
 3. Visual Cues Before and After DH/MDA.
- G. Ground De-icing and Anti-icing.
1. Recognition / Determination of Icing Conditions.
 2. Coordination between Flight Crew and Dispatcher.
 3. Responsibilities and Procedures Prior To and Following De-icing/Anti-icing.
 4. Type I and Type II Fluid Charts.
 5. Ground De-icing Examination.
- H. Aircraft Operating Manual
1. Use of checklist
 2. Limitations.
 3. Normal/Non normal emergency procedures.
- I. General Operations Manual (GOM)
1. Appropriate parts.

II. AIRCRAFT SYSTEMS

A. AIRCRAFT GENERAL

4:00 HOURS

1. Introduction, Terminology, Panel Layouts.
2. Dimensions, Weights, Turning Radius,
3. Cockpit, cabin configurations, doors, windows and structures.
4. Oxygen System.
 - a. Cockpit System.
 - b. Cabin System.
 - c. Portable Bottles.
 - d. Limitations.
 - e. Controls and annunciators.
 - f. Normal / Non normal / Emergency Procedures.
5. Lighting.
 - a. Exterior.
 - b. Interior.
 - c. Emergency.
 - d. Limitations.
 - e. Controls and Annunciators.
 - f. Normal / Non normal / Emergency Procedures.

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6. Fire and Overheat Protection.
 - a. Engine.
 - b. APU.
 - c. Cargo.
 - d. Wheel Well.
 - e. Lavatory fire protection
 - f. Limitations.
 - g. Controls and Annunciators.
 - h. Normal / Non normal / Emergency Procedures.

B. NON-EMERGENCY EQUIPMENT/FURNISHINGS

2:00 HOURS

1. Aircraft Equipment Listing.
2. Seat Adjustments.
3. Cockpit Windows.
4. Cockpit Door.
5. Introduction to Procedures.

C. ENGINES

4:00HOURS

1. Introduction to Turbine Engines.
2. General Configuration and Construction.
3. Engine Fuel System.
4. Oil System.
5. Pneumatic System.
6. Fire Protection.
7. Thrust Reverse System.
8. Start and Ignition System.
9. Anti-Ice System.
10. Limitations.
11. Controls and Indicators.
12. Normal / Non normal / Emergency Operation.

D. AUXILIARY POWER UNIT

2:00 HOURS

- A. Installation, capacity and operation.
- B. Fuel and Oil Systems.
- C. Electrical and Bleed Air Systems.
- D. Limitations.
- E. Controls and Indicators.
- F. Normal / Non normal / Emergency Operation.

E. AIR SYSTEM

7:00 HOURS

1. AIR CONDITIONING AND PRESSURIZATION

- A. Air Conditioning System.
- B. Pressurization System.
- C. Equipment Cooling System.
- D. Limitations.

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- E. Controls and Indicators.
- F. Normal / Non normal / Emergency Operation

2. BLEED AIR SYSTEM (PNEUMATIC)

- A. Bleed Air System (such as engines, APU and external ground air).
- B. Duct Isolation Valves.
- C. Limitations.
- D. System Layout.
- E. Controls and Indicators.
- F. Normal / Non normal / Emergency Operation.

F. ELECTRICAL SYSTEM

5:00 HOURS

- 1. AC Power.
- 2. DC Power.
- 3. Standby Power.
- 4. Engine driven generator
- 5. Auxiliary Power (External/APU).
- 6. System layout schematics.
- 7. Limitations.
- 8. Controls and Indicators.
- 9. Normal / Non normal / Emergency Operation.

G. HYDRAULIC SYSTEMS

3:00 HOURS

- 1. Reservoirs
- 2. Engine Driven Pumps.
- 3. Electrical Pumps.
- 4. System Layout.
- 5. Limitations.
- 6. Controls and Indicators.
- 7. Normal / Non normal / Emergency Operation.

H. LANDING GEAR AND BRAKES

3:00 HOURS

- 1. Main Gear.
 - a. Operation
 - b. Controls and Indicators.
- 2. Nose Gear.
 - a. Nose Gear Operation and Steering.
 - b. Controls and Indicators.
- 3. Steering.
 - a. Nose Gear Steering.
- 4. Brakes.
 - a. Brake System Hydraulic Pressure Sources.
 - b. Anti-Skid System.
 - c. Auto Brake System.
- 5. Limitations.
- 6. Controls and Indicators.
- 7. Normal / Non normal / Emergency Operation.

INITIAL GROUND TRAINING

I. FLIGHT CONTROL SYSTEMS

3:00 HOURS

1. Hydraulic Power Sources.
2. Yaw Control System.
3. Pitch Control System.
4. Roll Control System.
5. Spoilers / Speed Brake System.
6. Leading Edge / Trailing Edge Flap Systems - Trim.
7. Limitations.
8. Controls and Indicators.
9. Normal / Non normal / Emergency Operation.

J. FUEL SYSTEM

3:00 HOURS

1. Main Tanks.
2. Engine driven and boost pumps.
3. System valves – Crossfeed etc.
4. Center and Wing tanks.
5. Refueling / De-Fueling.
6. Fuel Quantity System.
7. Limitations.
8. Controls and Indicators.
9. Normal / Non normal / Emergency Operation.

K. ICE AND RAIN PROTECTION

2:00 HOURS

1. Engine Anti-Ice System.
2. Wing Anti-Ice System.
3. Window Heat.
4. Probe Heat.
5. Windshield Wiper.
6. Engine Anti-Ice.
7. Limitations.
8. Controls and Indicators.
9. Normal / Non normal / Emergency Operation.

L. FLIGHT INSTRUMENTS

3:00 HOURS

1. Pitot Static Systems.
2. Air Data Computers.
3. EFIS (ADI, HSI etc.)
4. Radio-Based Instruments (RMI, DME, Radio altimeters).
5. Compass System.
6. Flight Data Recorder.
7. Primary and Standby Instruments.
8. Instrument Switching.
9. Limitations.
10. Controls and Indicators.
11. Normal / Non normal / Emergency Operation.

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M. COMMUNICATIONS EQUIPMENT

2:00 HOURS

1. VHF Radios.
2. HF Radios.
3. Interphone/PA Systems.
4. Cockpit Voice Recorder.
5. Limitations.
6. Controls and Indicators.
7. Normal / Non normal / Emergency Operation.

N. FLIGHT MANAGEMENT, NAVIGATION

7:00 HOURS

1. Radio Receivers.
2. Transponder.
3. Weather Radar.
4. Inertial Reference Systems (IRS).
5. Flight Management System (FMS)
6. Limitations.
7. Controls and Indicators.
8. Normal / Non normal / Emergency Operation.

O. AUTOMATIC FLIGHT SYSTEM

3:00 HOURS

1. Autopilot System.
2. Auto-throttle System.
3. Auto-land System.
4. Flight Director System.
5. Limitations.
6. Controls and Indicators.
7. Normal / Non normal / Emergency Operation.

P. WARNING SYSTEMS


2:00 HOURS

1. Warning and Caution Lights.
2. TCAS / GPWS / Windshear
3. Configuration / Stall / Overspeed.
4. Limitations.
5. Controls, Indicators, and EIS.
6. Normal / Non normal / Emergency Operation.

Q. EMERGENCY EQUIPMENT

2:00 HOURS

1. Exits and Slides.
2. Fire Extinguishers, Fire Gloves and Smoke Hoods (PBE).
3. Flotation Devices (including rafts and vests).
4. Communications (PA/Interphone/Megaphone).
5. First Aid Kits.
6. Flashlights.
7. Axe.
8. Limitations and Inspection Frequency.

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INITIAL GROUND TRAINING

R. COCKPIT RESOURCE MANAGEMENT 4:00 HOURS

1. Course Introduction.
2. Opening Video.
3. PDX Video.
4. Assertiveness.
5. Theory of The Situation.
6. Testing Assumptions.
7. Active Listening.
8. Norms.
9. Performance Feed Back.
10. Stress Management.
11. PDX Video.

III. QUALIFICATION MODULE

REVIEW AND EXAMINATION	4:00 HOURS
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IV. CPT TRAINING MODULES* 24:00 HOURS

CPT Period 1	Familiarization, Normal and Non-normal Procedures	4:00
CPT Period 2	Normal and Non-normal Procedures	4:00
CPT Period 3	Normal and Non-normal / Emergency Procedures	4:00
CPT Period 4	Normal and Non-normal / Emergency Procedures	4:00
CPT Period 5	Normal and FMS Procedures	4:00
CPT Period 6	FMS and Review/Proficiency (as required)	4:00

*** CPT Training syllabus located at Appendix C: Initial CPT Training
Note: Emergency procedures included as part of Non-Normal**



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EMERGENCY TRAINING MODULE

14:00 HOURS

I. EMERGENCY SITUATION TRAINING MODULE

6:00 HOURS

- A. Crewmember Duties and Responsibilities.
 - 1. PIC's Emergency Authority.
 - 2. Emergency Assignments
 - 3. Cockpit Procedure Resource Management.
 - 4. Reporting Incidents and Accidents.
- B. Crew Coordination and Company Communications.
 - 1. Ground Agency Notification Procedures (, Airport Authority).
 - 2. Company Communication Procedures.
 - 3. Cabin Crew Notification Procedures.
- C. Aircraft Fires.
 - 1. Principles of Combustion and Classes of Fires.
 - 2. Toxic Fumes and Chemical Irritants.
 - 3. Use of Hand-Held Extinguishers.
 - 4. Lavatory Fires.
 - 5. Smoke Masks and Goggles.
 - 6. Smoke Control.
- D. First Aid Equipment.
 - 1. Contents and Quantity of First Aid Kits.
 - 2. Requirements for First Aid Integrity.
 - 3. Use of Individual Items.
- E. Illness, Injury and Basic First Aid.
 - 1. Principles of CPR.
 - 2. Ear and Sinus Blockage.
 - 3. Seeking Medical Assistance.
 - 4. Treatment for Shock.
 - 5. Heart Attacks and Pregnancy situations.
- F. Ground Evacuation.
 - 1. Aircraft Configuration.
 - 2. Directing Passenger Flow.
 - 3. Blocked or Jammed Exit Procedures.
 - 4. Fuel Spillage and Other Ground Hazards.
 - 5. Aircraft Flashlights.
 - 6. Handicapped Persons.
- G. Ditching.
 - 1. Cockpit and Cabin Preparation.
 - 2. Passenger Briefing.
 - 3. Crew Coordination.
 - 4. Primary Swells, Secondary Swells, and Sea Conditions.
 - 5. Ditching Heading and Water Landings.
 - 6. Ditching at Night.
- H. Rapid Decompression (Operations above 25,000 feet).
 - 1. Respiration.

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2. Hypoxia, Hyperventilation, Hypothermia.
3. Time of Useful Consciousness.
4. Gas Expansion and Bubble Formation.
5. Physical Phenomena and Actual Incidents.
- I. Previous Aircraft Accidents / Incidents.
 1. CAA Accident Report review.
 2. Human Factors / Considerations.
 3. CAA Reporting System.
- J. Crewmember Incapacitation.
 1. Company Procedures.
 2. Reporting Requirements ().
 3. Interference with Crewmembers
- K. Hijacking and Other Unusual Situations.
 1. Hijack Procedures.
 2. Bomb Threat Procedures.
 3. Security Coordinator Responsibilities.
 4. In-flight Intercept Signals and Procedures.

II. EMERGENCY DRILL TRAINING MODULE

7:00 HOURS

- A.** During initial training, each aircraft crew member will perform the following emergency drills—
1. Protective Breathing Equipment/Firefighting Drill:
 - i) Locate source of fire or smoke (actual or simulated fire).
 - ii) Implement procedures for effective crew co-ordination and communication, including notification of flight crew members about fire situation.
 - iii) Don and activate installed PBE or approved PBE simulation device.
 - iv) Manoeuvre in limited space with reduced visibility.
 - v) Effectively use the aircraft's communication system.
 - vi) Identify class of fire.
 - vii) Select the appropriate extinguisher.
 - viii) Properly remove extinguisher from securing device.
 - ix) Prepare, operate and discharge extinguisher properly.
 - x) Utilise correct fire fighting techniques for type of fire.
 2. Emergency Evacuation Drill:
 - i) Recognise and evaluate an emergency.
 - ii) Assume appropriate protective position.
 - iii) Command passengers to assume protective position.
 - iv) Implement crew co-ordination procedures.
 - v) Ensure activation of emergency lights.
 - vi) Assess aircraft conditions.
 - vii) Initiate evacuation (dependent on signal or decision).
 - viii) Command passengers to release seatbelts and evacuate.
 - ix) Assess exit and redirect, if necessary; to open exit, including deploying slides and commanding helpers to assist.

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- x) Command passengers to evacuate at exit and run away from aircraft.
- xi) Assist special need passengers, such as handicapped, elderly, and persons in a state of panic.
- xii) Actually exit aircraft or training device using at least one of the installed emergency evacuation slides.

Note: *The crew member may either observe the aeroplane exits being opened in the emergency mode and the associated exit slide/raft pack being deployed and inflated, or perform the tasks resulting in the accomplishment of these actions*

B. Each aircraft crew member must accomplish additional emergency drills during initial and recurrent training, including performing the following emergency drills—

1. Emergency Exit Drill:

- i) Correctly pre-flight each type of emergency exit and evacuation slide or slideraft (if part of cabin attendant's assigned duties).
- ii) Disarm and open each type of door exit in normal mode.
- iii) Close each type of door exit in normal mode.
- iv) Arm of each type of door exit in emergency mode.
- v) Opening each type of door exit in emergency mode.
- vi) Use manual slide inflation system to accomplish or ensure slide or slideraft inflation.
- vii) Open each type of window exit.
- viii) Remove escape rope and position for use.

2. Hand Fire Extinguisher Drill:

- i) Pre-flight each type of hand fire extinguisher.
- ii) Locate source of fire or smoke and identify class of fire.
- iii) Select appropriate extinguisher and remove from securing device.
- iv) Prepare extinguisher for use.
- v) Actually operate and discharge each type of installed hand fire extinguisher.

Note: *Fighting an actual or a simulated fire is not necessary during this drill.*


- vi) Utilise correct firefighting techniques for type of fire.
- vii) Implement procedures for effective crew co-ordination and communication, including notification of crew members about the type of fire situation.

3. Emergency Oxygen System Drill:

- i) Actually operate portable oxygen bottles, including masks and tubing.
- ii) Verbally demonstrate operation of chemical oxygen generators.
- iii) Prepare for use and operate oxygen device properly, including donning and activation.
- iv) Administer oxygen to self, passengers, and to those persons with special oxygen needs.

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- v) Utilise proper procedures for effective crew co-ordination and communication.
 - vi) Activate PBE.
 - vii) Manually open each type of oxygen mask compartment and deploy oxygen masks.
 - viii) Identify compartments with extra oxygen masks.
 - ix) Implement immediate action decompression procedures.
 - x) Reset oxygen system, if applicable.
4. Flotation Device Drill:
- i) Don and inflate life vests.
 - ii) Remove and use flotation seat cushions.
 - iii) Demonstrate swimming techniques using a seat cushion.
5. Ditching Drill:
- Note: During a ditching drill students must perform the "prior to impact" and "after impact" procedures for a ditching, as appropriate to the specific operator's type of operation.*
- Implement crew co-ordination procedures, including briefing with captain to obtain pertinent ditching information and briefing Cabin Crew Members.
- i) Co-ordinate time frame for cabin and passenger preparation.
 - ii) Adequately brief passengers on ditching procedures.
 - iii) Ensure cabin is prepared, including the securing of carry-on baggage, lavatories, and galleys.
 - iv) Demonstrate how to properly deploy and inflate sliderafts.
 - v) Remove, position, attach sliderafts to aircraft.
 - vi) Inflate rafts.
 - vii) Use escape ropes at overwing exits.
 - viii) Command helpers to assist.
 - ix) Use slides and seat cushions as flotation devices.
 - x) Remove appropriate emergency equipment from aircraft.
 - xi) Board rafts properly.
 - xii) Initiate raft management procedures (i.e., Disconnecting rafts from aircraft, applying immediate first aid, rescuing persons in water, salvaging floating rations and equipment, deploying sea anchor, tying rafts together, activating or ensuring operation of emergency locator transmitter).
 - xiii) Initiate basic survival procedures (i.e., Removing and utilising survival kit items, repairing and maintaining raft, ensuring protection from exposure, erecting canopy, communicating location, providing continued first aid, providing sustenance).
 - xiv) Use heaving line to rescue persons in water.
 - xv) Tie sliderafts or rafts together.
 - xvi) Use life line on edge of slideraft or raft as a handhold.
 - xvii) Secure survival kit items.

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6. Each aircraft crew member must accomplish additional emergency drill requirements during initial and recurrent training including observing the following emergency drills—
 - a) Liferaft Removal and Inflation Drill, if applicable:
 - i) Removal of a liferaft from the aircraft or training device.
 - ii) Inflation of a liferaft.
 - b) Slideraft Transfer Drill:
 - i) Transfer of each type of slideraft pack from an unusable door to a usable door.
 - ii) Disconnect slideraft at unusable door.
 - iii) Redirect passengers to usable slideraft.
 - iv) Installation and deployment of slideraft at usable door.
 - c) Slide and Slideraft Deployment, Inflation, and Detachment Drill:
 - i) Engage slide girt bar in floor brackets.
 - ii) Inflate slides with and without quick-release handle (manually and automatically).
 - iii) Disconnecting slide from aircraft for use as a flotation device.
Arm sliderafts for automatic inflation.
 - iv) Disconnecting slideraft from the aircraft.
7. Emergency Evacuation Slide Drill:
 - i) Open armed exit with slide or slideraft deployment and inflation.
 - ii) Egress from aircraft via the evacuation slide and run away to a safe distance.


III. QUALIFICATION MODULE

EMERGENCY TRAINING EXAMINATION	01:00 HOUR
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DANGEROUS GOODS RECOGNITION TRAINING MODULE

2:00 HOURS

- A. Recognition / Identification.
 1. Packaging.
 - a) Hazardous Materials Definitions Chart.
 - b) Damaged or Leaking Packages.
 2. Marking.
 - a) Shipping Papers.
 - b) Proper Shipping Name.
 - c) ICAO/IATA.
 - d) Missing Labels.
 3. Labeling.

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- a) Poisons.
- b) Radioactive Materials.
- c) Dry Ice.
- B. Reporting Incidents and/or Accidents Requirements.
 - 1. Required Reports.
 - 2. Telephone Reports.
 - 3. Written Reports.

QUALIFICATION MODULE

REVIEW AND EXAMINATION	00 :30 HOUR
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SECURITY

7:00 HOURS

- A. General Security Policy and Procedures.
- B. ABC AIRLINE – Approved Security Program.
- C. Preventative Security Screening
- D. The Hijacker, Crew, Cabin Crew Member, Passenger.
- E. Airport Emergency Response.
- F. Examination.

QUALIFICATION MODULE

REVIEW AND EXAMINATION	1:00 HOUR
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