BOSTONAIR
TECHNICAL TRAINING
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BOSTONAIR TECHNICAL TRAINING LTD
A320 CEO/NEO General Familiarisation

The Airbus A320 is one of the most widely used commercial aircraft families in the world. Known for its efficiency, reliability, and advanced fly-by-wire flight control technology, the A320 plays a central role in short- and medium-haul airline operations across the globe.

This fully online A320 CEO/NEO General Familiarisation course (equivalent to ATA Spec 104 Level 1) provides a comprehensive introduction to the aircraft in a flexible, modern learning format. Designed to be equivalent to approximately 35 hours of classroom instruction, the course combines professional technical content with engaging e-learning techniques and voice-over narration, allowing learners to build essential aircraft knowledge wherever they are.

Who Should Take This Course?

- Maintenance Managers, Planners, Quality & Safety staff
- Maintenance personnel who need **awareness** but will **not certify or perform maintenance**
- Maintenance personnel requiring refresher training on A320 aircraft
- Ground crew, Engineers, and Airline staff
- Anyone required to complete ATA 104 Level 1 General Familiarisation Training as part of their role
- Aviation enthusiasts looking to deepen their knowledge on modern aircraft

By the end of this course, participants will be able to:

- ✓ Develop a clear understanding of the Airbus A320 family and its CEO and NEO variants.
- ✓ Understand the purpose, layout, and basic operation of the major aircraft systems.
- ✓ Identify major components, their locations, and their functions within the aircraft.
- ✓ Apply general A320 knowledge when working in maintenance, operational, or support environments.

A320 GEN FAM AIRFRAME

Introduction
General Overview
What you will learn

Who the Course is Intended for:

ATA 00 – Introduction
Dimensions
Cabin Layout
- Cabin Maximum

Operating Weights and Limits
Door Heights

Composite Structures
- Metallic Materials
- Composite Materials

Fuselage
Summary

ATA 00 – Introduction (A320 Family)
Fuselage
- A320 with Wing Fence
- A320 with Sharklet
- A320NEO

Stabilisers
- Vertical
- Horizontal

Wing
Cockpit Presentation
- Overhead Panel
- Glare Shield
- Main Instrument Panel (Enhanced)
- Centre Pedestal
- Side Consoles

Cockpit Philosophy
Ground Support Equipment and Tools
- Specific Tools Overview
- Support Equipment Summary (SES)
- Tool Equipment Manual (TEM)

Jacking
- Primary Jacking Points
- Auxiliary Jacking Points (Safety Stay)

Jacking Points
- Forward
- Main
- Safety Stay
- Nose Landing Gear (Axle)
- Main Landing Gear – 2 Wheel
- Main Landing Gear – Bogie
- Jacking Gear

Levelling, Symmetry and Alignment
- Quick Levelling
- Precise Levelling
- Symmetry and Alignment Check
- Quick Levelling Procedure with the ADIRU

Towing
- Maintenance Towing
- Transportation Servicing Towing

Turning RADII
Servicing Locations
- Aircraft Servicing Arrangements

Ground Service Connections Layout
Aircraft Grounding Points
Nose Landing Gear, Main Landing Gear
Overwing Refuelling and Grounding Point
Avionics Compartment Door
HP Connection
Engine Inlet Grounding Point
Summary

ATA 21 – Air Condition System
Pack Introduction
- Air Conditioning Packs
- Pack Temperature Control System
- Zone Controller and Temperature Modulation
- Air Conditioning System Controllers (ACSC)
- Temperature Control Mechanism
- Maximum Cooling and Heating
- Takeoff and Landing Adjustments

Control and Indicating
- Control Panels
- ECAM Display

Component Location
Avionics Ventilation
Ventilation Panel
Galley & Lavatory Ventilation
Pressurisation System Introduction
- Pressurised Areas

Pressurisation
- Control Panel
- Display
- Component Location

Ventilation Panel
Ventilation – Component Location
Summary

ATA 22 – Auto Flight System

General Information
Flight Management/Flight Guidance
- FG 3 Functions

Autopilot/Flight Director
- Functions
- Autothrust
- Flight Augmentation

Panel Location/Control and Indicating
- MCDUs
- Flight Control Unit
- EFIS Displays
- Primary Flight Display
- Side Sticks
- Throttle Levers
- Flight Control Panels

Component Location
Maintenance/Test Facilities
Safety Precautions
- Electrical Power Safety
- Hydraulic System Precautions
- Safety Devices and Notices
- Cockpit Warning Notices

Summary

ATA 23 - Communications

Sub-systems
- Radio Communication
- On-Board Communication

On Board Communication
4 Functions
- Passenger Address (PA)
- Flight Interphone
- Service Interphone (on ground only)
- Cabin Interphone

Service Interphone Jacks
- Radio Communication System
- Radio Communications control and Indicating
- RMP

ACP
Flight Interphone
Calls Panel
Component Location
Antennas
Summary

ATA 24 – Electrical System

General Information
- DC Battery Bus
- Essential Buses
- APU Generator and External Power
- Power Source Prioritisation

Main Panel/ECAM Page
Emergency Configuration
- Abnormal Configuration
- General Information

Summary

ATA 26 – Fire Protection System

A320 Family Fire Protection Systems
- Engine Fire Protection
- Detection and Extinguishing

Component Location
APU Fire Protection
- Detection and Extinguishing

Avionics Compartment Smoke Detection
- Cooling System Overview
- Smoke Detection Mechanism
- Cockpit Warning System

Avionics Compartment Smoke Detection – Control and Indicating
- Avionics Compartment Smoke Detection
- Cabin Compartment Smoke Detection
- Lavatory Smoke Detection

Cabin Fire Protection
Summary

ATA 27 – Flight Controls

Surfaces
Pitch
Roll
Yaw
Speed Brakes
Ground Spoilers
High Lift
Aileron Drop
Controls
Indicating
Flight Control Panels
Side Stick Priority Lights
ECAM Pages
Fly by Wire Principle
Flight Controls Architecture
- Arrangement

Flight Control Laws
- Normal Law
- Alternate Law
- Direct Law

Flight Controls Presentation
- Surfaces
- Actuators
- Computers
- Active Servo Controls
- Reconfiguration Priorities

Mechanical Back-Up
Slat and Flap System
- Overview of Slats and Flaps
- Hydraulic Systems and Components
- Wing tip Brakes (WTBS)
- Position feedback and Sensors
- Alpha/Speed Lock Function

Computers
Summary

ATA 28 – Fuel System

General Information
- Fuel Philosophy
- Fuel Distribution
- APU Fuel Usage
- Pump Failures
- Fuel Levels and Indicators

A321 Differences
- Centre Tank and Jet Jumps
- Wing Tank Configuration
- ECAM Memo
- Additional Centre Tanks (Acts)

Refuel/Defuel
- Functions
- Fuel System
- Refuel/Defuel Coupling and Refuel Valve

Ground Servicing Connections
Warnings and Cautions
Options
Summary

ATA 29 – Hydraulic System

Independent Hydraulic Systems
- Green
- Yellow
- Blue

General Information
- Reservoir Pressurisation
- Hydraulic System Pumps
- Yellow Stem Electric Pump
- Power Transfer Unit (PTU)
- Fire Shut-off Valves

ECAM Hydraulic Page
Panel Location
- PTU/ELEC PUMPS/RAT

Engine Pump & Reservoir
Servicing Panels
- Green System Ground Service Panel
- Blue System Ground Service Panel
- Yellow System Ground Service Panel

Safety Precautions
Summary

ATA 30 – Ice & Rain Protection

System Introduction
- Subsystems

Wing Ice Protection
Engine Air Intake Ice Protection
Probe Ice Protection
- Windows Anti-Icing and Defogging

Wiper System Presentation
Rain Removal
Drain Mast Ice Protection
Ice Detection
Control and Indicating

ATA 31 – Indicating and Reporting

Electronic Instrument System
EIS Subsystems
- EFIS
- ECAM

ECAM
- ECAM Control and Indicating

EFIS
- EFIS Control and Indicating

Clock
Centralised Fault Display System
Digital Flight Data Recording
- Functions of the Flight Data Interface and Management Unit (FDIMU)
- Role of the Linear Accelerometer and SDAC
- Quick Access Recorder (QAR) and SSFDR Operations
- Ground Control and Event Marking Features

Aircraft Integrated Data System
- Main Functions of Aids
- Functions of the DMU
- Data Loader and Printer
- FDMIU and PCMCIA Card Slot
- MCDU Connection to DMU

Summary

ATA 32 – Landing Gear

General Information
Landing Gear Doors
- Main Landing Gear
- Nose Landing Gear

Wheels and Brakes
- Main Landing Gear
- Nose Landing Gear

Landing Gear Extension and Retraction
- Control Lever and LGCIU
- Proximity Detectors and Failures
- Interlock Mechanism and Nose Wheel Centering
- Hydraulic System and Safety Valve
- Free Fall Extension

Braking
- Normal Braking
- Alternate Braking
- Functions
- Parking Brake

Steering
Control and Indicating
- Cockpit Panel Location

Indicating, Parking Brake Handle, Rudder Pedals
- Cockpit Panel Location

Nose Wheel Steering
Component Location
Safety Precautions
- General Safety Procedures
- Circuit Isolation
- Ground Safety Locks
- Brake and Wheel Cooling
- Tire Inflation and High Pressure Gas
- Hydraulic System Pressurization

Summary

ATA 33 – Lights

General Information
- Cockpit Lights
- Cabin Lights
- Cargo and Service Compartment Lights
- Exterior Lights
- Emergency Lights

Cockpit Lights System
Cockpit Lights Control
- Reading Lights
- Internal Light Panel
- Glareshield Lighting
- Flood and Main Panel Lighting
- Side Console Light Controls

Cockpit Lights
Cabin Lights
- Cabin General Illumination
- Lavatory Lighting

- Passenger Reading and Cabin Attendant Work Lights
- Passenger Lighted Signs

Emergency Lights

- Cabin Emergency Lights
- Exterior Emergency Lights

Control and Indicating
Component Location
Cargo and Service Compartment Lights
Exterior Lights
Component Location
Summary

ATA 34 – Navigation

General System

- Subsystems

Air Data/Inertial Reference System
Air Data Inputs
Air Data Section
Inertial Reference Section
ADIS Control and Indicating
PFD and ND Indicating
Standby Instruments

- Integrated Standby Instrument System (Option)

Component Location
Dependent Pos Determining Sys and Land Aids
ILS and Marker System

- ILS Signals
- Multi-Mode Receiver (MMR)
- Lateral and Vertical Guidance
- Marker Beacon System
- VOR Receiver Function

Landing Aids Control and Indicating
Radio Navigation System

- Normal Tuning
- Backup Tuning
- Radio Navigation Control and Indicating
- ND Modes
- MMR (GPS Part) System

Network Architecture
Summary

ATA 34 – Navigation Part 2

GPS Control and Indicating
ATC/TCAS System
Navigation Antennas Location
Component Location – Avionics Bay
Independent POS Determining SYS Pres
GPWS
System Architecture
GPWS Panel
Control and Indicating
Radio Altimeter
Control and Indicating
WXR/PWS

- WXR/PWS Panel
- Component Location

Summary

ATA 35 – Oxygen System

Oxygen

- Crew Oxygen System
- Passenger Oxygen System
- Passenger Oxygen SYS on Light

Crew Oxygen Supply

- High-Pressure Oxygen Cylinder
- Pressure Regulation and Supply Valve
- Overpressure Protection

- Oxygen Pressure Indication

Crew Oxygen Mask
Passenger Oxygen Mask
Portable Oxygen Mask
Control and Indicating
Component Location
Safety Precautions
Summary

ATA 36 – Pneumatic System

System Introduction

- High Pressure Systems
- High Pressure Supply

Engine Bleed

- Engine Bleed Air Regulation

- Main Engine Bleed Valve
- System Pressure Monitoring
- Temperature Regulation

APU Bleed/External Air

- Crossbreed Duct and Valve

- APU Bleed Air Supply
- HP Ground Power Unit

Control and Indicating
Control Panel
Component Location
Pressure Regulation Components
Temperature Regulation Components
Summary

ATA 38 – Water and Waste System

Potable Water System
- A320
- A318/A319/A321
- Waste Water System
- Vacuum Toilet System
- Flushing
- Control and Monitoring

Service Panel Location
Water Tank Locations
Summary

ATA 46 – Air Traffic Management System

General Information
- Overview of ATIMS
- Data-Link Communication
- Customisation and Functionality
- Ground Networks and Service Providers

Pre-Fans, Fans
Architecture
Panel Location/Control and Indicating
- Pre-FANS
- COMM Line Key
- Pre-Fans Status Message
- ATC MSG Pushbutton

Component Location
Summary

ATA 47 – Insert Gas System

General Information
Sub Systems
- CSAS
- IGGS

Inert Gas System
IGGS Pallet Locations
Summary

ATA 49 – Auxiliary Power Unit

Engine Description
APIC APU Shown
- External Controls
- ECAM APU Page
- Electronic Control Box (ECB)
- Air Intake Flap

Summary

ATA 50 – Structure

General Information
Windows
Wings
Composite Applications
Summary

ATA 52 – Doors

Different Doors
- Passenger Doors
- Emergency Exits
- Cargo Doors
- Avionics Compartment Doors
- Cockpit Door
- Escape Slide and Sliding Windows

General Information
Cockpit Door (Continued)
Door Elements
Control and Indicating
Passenger Doors
- Emergency Exits
- Slide Armed and Cabin Pressure Indicators
- Warning: Pressurised Aircraft

- Emergency Exit Controls
- Armed/Disarmed Condition Indication

Cargo Doors

- Indications

ECAM Door/OXY Page

- Indications

Summary

A320 GEN FAM CFM56

CFM56

System Overview

- Engine Overview
- Thrust Adjustment
- Power Plant Installation

Combustion Chamber

Turbine Section

Thrust Reverser System

- Revers Thrust Control
- Hydraulic Control Unit (HCU0

Oil System

- Servicing Location
- Master Chip Detector Check

MEL/Deactivation

- Fuel Filter Clogging
- T/R Deactivation and Lockout
- Oil Filter Clogging
- Start Valve Manual Operation

Summary

A320 GEN FAM V2500

V2500

Introduction

Installation

Modular Concept

LP Rotor

- LP Rotor Overview
- Intermediate Case
- LP Turbine Function
- Support and Bearings
- Components
- HP Rotor and Combustion Chamber
- Accessory Gearbox
- FADEC

EIU/EVMU

- EEC Communication
- EIU Functionality
- Engine Vibration Monitoring

EEC

Thrust Reverser System

- Reverse Thrust Control
- Hydraulic Control Unit (HCU)
- Thrust Reverser Assembly

Control Panels

- Throttle Control Levers
- Autothrust Mode
- Engine Start and Shut Down Controls

ECAM Engine Indications

- Classic
- Enhanced

Component Location

Summary

A320 GEN FAM LEAP-1A

LEAP-1A

Introduction

- Engine Overview
- CFM International
- A320 Model Specifications
- Thrust Ratings

Installation

- Components

Engine

- LP Shaft
- HP Shaft and Combustion Chamber
- Transfer & Accessory Gearboxes

Fuel and Starting

Air Systems

Oil System

Propulsion Control System (PCS)

- EEC
- EIU

Summary

LEAP-1A Part 2

Thrust Reverser System
Control and Indicating
- Control Panels
- ECAM Engine

Maintenance/Test Facilities
Safety Precautions
Storage and Preservation
Summary

A320 GEN FAM PW1100G-JM

PW1100G-JM

General Information
Introduction
- FADEC System Overview
- Data Storage Unit (DSU)
- Power Plant Installation
- Thrust Capabilities

Installation
Modular Concept
Fan Rotor and Fan Case
- Fan Rotor Overview
- Fan Blades
- Inlet Cone
- Fan Case

Fan Drive Gear System (FDGS) and Fan Intermediate Case (FIC)
- Function of the FDGS
- LPC and Fan Speed Ratio
- Support provided by the FIC
- Role of the VIGVs
- Low Pressure Compressor and Compressor Intermediate Case
- High Pressure Compressor Rotor

Diffusor and Combustion Chamber Assembly
Summary

PW1100G-JM Part 2

General Information
Turbine Exhaust Case
Engine Gear Box
- Overview of the Engine Gear Box (EGB)
- Main Gear Box (MGB)
- Angle Gear Box (AGB)

Aerodynamic Stations and Boroscopic Ports
- Boroscopic Ports
- Igniter Plug Ports
- Aerodynamic Stations

Engine Bearings
Summary

FINAL EXAM – 40 QUESTION MCQ, 75% PASS MARK

APPROXIMATE TOTAL TRAINING DURATION: 30-35hrs