BOEING 747 series

747-400 with EICAS/CMC and P&W 4000 engines

General Familiarization

by Steve Oebermann

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DETAILS:
This book is a study guide for the Boeing 747-400 Series Aircraft and it includes an additional chapter on the EICAS/CMC. This book is a great tool for review, refresher, new hires, pre-requisite training, and preparation for systems level classes. There are many benefits for students, technicians, teachers, MRO Training Departments, and Airlines alike.

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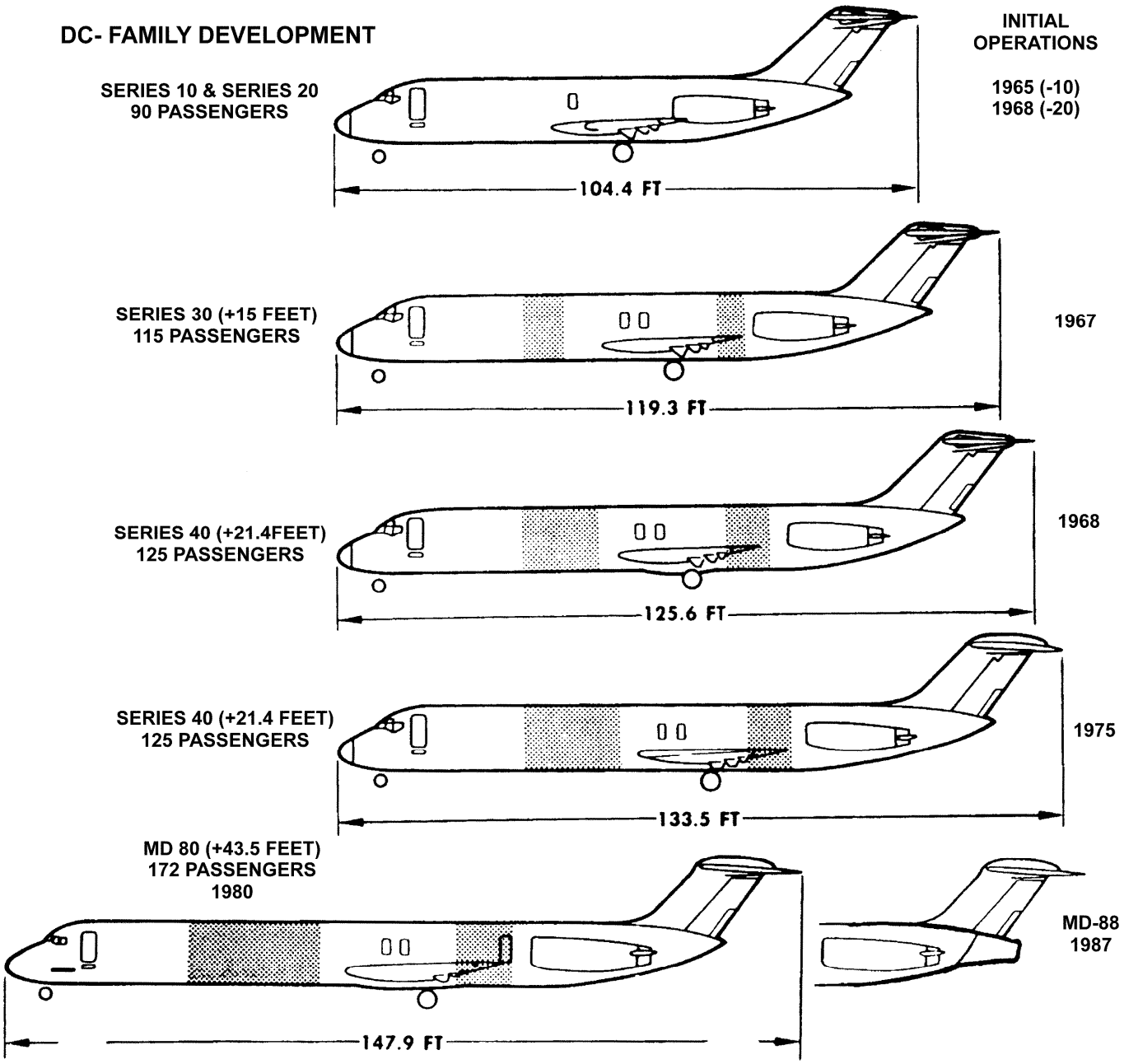
MD80 GENERAL FAMILIARIZATION SELF PACED

This course covers an overview of the Mechanical Systems to include: Description and Operation, Controls and Indications, Component Location, & Servicing.

OBJECTIVES

On completion of this training, using the study guide provided, and appropriate Maintenance Manuals the student will be able to:

1) Describe the safety precautions to be observed when working on or near the aircraft and its systems
2) Describe the locations of principle components
3) Describe the normal functions of each major system, including terminology and nomenclature
4) Using the proper maintenance manual reference, perform all aircraft system servicing tasks
5) Interpret reports provided by the crewmembers



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MD88 GENERAL FAMILIARIZATION

ATA-06

MD-80 AIRCRAFT COMMON ACRONYMS AND ABBREVIATIONS

ACARS	ARINC Communications Addressing and Reporting System
ACTLR	AC Cross Tie Lockout Relay
ACTLS	AR Cross Tie Lockout Relay Slave
ACTR	AC Cross Tie Relay
ADC	Air Data Computer
ADG	Air Driven Generator
AEPTR	AC Emergency Power Transfer Relay
AGB	Accessory Gear Box
AGSTR	AC Ground Service Tie Relay
AHRS	Attitude and Heading Reference System
AIDS	Aircraft Integrated Data System
ALT	Altitude
AND	Attitude Nose Down
ANT	Antenna
ANU	Attitude Nose UP
AOA	Angle of Attack
AP	Autopilot
APSR	Auxiliary Power Unit Starter Relay
ARR	Annunciator Reset Relay
ARSW	Annunciator Reset Switch
ART	Auto Reserve Thrust
ASE	Auto Slat Extend
ATC	Air Traffic Control
ATE	Automatic Test Equipment
ATS	Autothrottle System
AT/SC	Autothrottle - Speed Control
AUX	Auxiliary
BC	AC Bus Control Unit
BCHG	Battery Charger

BIT	Built-In-Test
BOD	Bottom of Descent
BR	Battery Relay
BRG	Bearing
BS	Battery Switch
C&TGSI	Battery Charger & DC Transfer Bus Ground Service Interlock
C&TR	Battery Charger & DC Transfer Bus Relay
C&TRCR	Battery Charger & DC Transfer Bus Relay Control Relay
CA	Compass Amplifier
CADC	Central Air Data Computer
CAP	Capture
CAS	Computed Airspeed
CAWS	Central Aural Warning System
CDU	Cockpit Display Unit
CDU	Control Display Unit
CFM	Cubic Feet Per minute
CI	Compass Indicator
CL	Climb
CLB	Climb
CLMP	Clamp
CMD	Command
CMPS	Compass
CPU	Central Processing Unit
CR	Cruise
CRS	Course
CRZ	Cruise
CSD	Constant Speed Drive
CTTD	AC Cross Tie Relay Time Delay Circuit
DADC	Digital Air Data Computer
DAR	Drive Annunciator Relay
DAR	Digital Aids Recorder

DBSR	DC Bus Sensing Relay Right
DCTR	DC Cross Tie Relay
DOR	Drive Disconnect Relay
DEPTR	DC Emergency Power Transfer Relay
DES	Descent
DFDAU	Digital Flight Data Acquisition Unit
DFDR	Digital Flight Data Recorder
DFGC	Digital Flight Guidance Computer
DFGS	Digital Flight Guidance System
DGSTR	DC Ground Service Tie Relay
DH	Decision Height
DME	Distance Measuring Equipment
DPCT	Differential Protection Current Transformer
DSAR	Distribution System Annunciator Relay
DTBSR	DC Transfer Bus Sensing Relay
DTW	Distance to Waypoint
EBU	Engine Build Up
ECSW	Emergency Power Control Switch
EDBST	Emergency DC Bus Sensing Relay
E/E	Electrical/Electronics
EFIS	Electronic Flight Instrument System
EGT	Exhaust Gas Temperature
ENG.SYNC	Engine Synchronizer
EPC	Electrical Power Center
EPR	Engine Pressure Ratio
EVNT	Event
FD	Flight Director
FDAU	Flight Data Acquisition Unit
FDEP	Flight Data Entry Panel
F/F	Fuel Flow
FGC	Flight Guidance Computer

FGCP	Flight Guidance Control Panel
FLR	Flare
FLT	Flight
FMA	Flight Mode Annunciator
FMC	Flight Management Computer
FMS	Flight Management System
FRP	Fuselage Reference Plane
F/S	Fast/Slow
FSTD	Fault Selector Time Delay Circuit
GA	Go Around
GAR	Generator Annunciator Relay
GCAR	Generator Control Annunciator Relay
GCR	Generator Control Relay
GCU	AC Generator Control Unit
GLS	Glideslope
GND	Ground
GPWS	Ground Proximity Warning System
GRR	Ground Refueling Relay
G/S	Glideslope
GSAPR	Ground Service Auxiliary Power Relay
GSEPR#1	Ground Service External Power Relay No. 1
GSEPR#2	Ground Service External Power Relay No. 2
HDG	Heading
HLD	Hold
HPC	High Pressure Compressor
HPT	High Pressure Turbine
HTBEAT	Heartbeat
IAS	Indicated Airspeed
IGV	Inlet Guide Vane
ILS	Instrument Landing System
IND	Indicator

INSR	Insert
INTLK	Interlock
ISADS	In-Service Data Acquisition System
JFC	Jet Fuel Control
LAPCR#l	Left Auxiliary Power Relay Control Relay No. 1
LAPCR#2	Left Auxiliary Power Relay Control Relay No. 2
LAPR	Left Auxiliary Power Relay
LDBSR	Left Dead Bus Slave Relay
LEPCR	Left External Power Relay Control Relay
LEPR	Left External Power Relay
LGR	Left Generator Relay
LNAV	Lateral Navigation
LND	Land
LPC	Low Pressure Compressor
LPT	Low Pressure Turbine
LRU	Line Replaceable Unit
LSB	Lower Side Band
LSDU	Load Selector Display Unit
MAC	Mean Aerodynamic Chord
MAIN	Maintenance
MCT	Maximum Cruise Thrust
MCU	Management Control Unit
MIC	Microphone
MKRBCN	Marker Beacon
MMO	Maximum Allowable Mach
MON	Monitor
MTC	Mach Trim Compensator
MW&C	Master warning and Caution
N	Rotational Speed In RPM or Percent of RPM
N1	Rotational Speed of the Low Pressure Compressor
N2	Rotational Speed of the High Pressure Compressor

NAV	Navigation
NCP	Navigation Control Panel
ND	Navigation Display
NM	Nautical Miles
OSC	Oscillator
OVRD	Override
PAD	Pressurizing and Dump Valve
PA	Passenger Address
PERF	Performance
PFD	Primary Flight Display
PLT	Preload Indicating
PMS	Performance Management System
PMTR	Permanent Magnet Generator Transformer-Rectifier
PPM	Pounds Per Minute
PRBC	Pressure Ratio Bleed Control
PROX.SW	Proximity Switch (etc.)
PRR	Power Ready Relay
PSEU	Proximity Sensor Electronics Unit
PSIA	Pounds Per Square Inch, Absolute
PSID	Pounds Per Square Inch, Differential
PSIG	Pounds Per Square Inch, Gauge Pratt & Whitney Aircraft Power
QAD	Quick Attach - Detach
QEC	Quick Engine Change
RA	Radio Altitude
RAPCR#l	Right Auxiliary Power Relay Control Relay
No. 1 RAPCR#2	Right Auxiliary Power Relay Control Relay
No. 2 RAPR	Right Auxiliary Power Relay
RAT	Ram Air Temperature
RAT/TRI	Ram Air Temperature/Thrust Rating Indicator
RCD	Reverse Current Diode
RDBR	Right Dead Bus Relay

RDBSR	Right Dead Bus Slave Relay
RDR	Radar
REPCR	Right External Power Relay Control Relay
REPR	Right External Power Relay
RETD	Retard
RGR	Right Generator Relay
RPM	Revolutions Per Minute
RTS	Return to Service
SAT	Static Air Temperature
SCN	Specification Control Number
SELCAL	Selective Calling
SEM	Standard Electronic Module
SENS	Sensitivity
SPDSEL	Speed Select
SPLR	Spoiler
SOL	Squelch
SSEC	Static Source Error Correction
SSRC	Supplementary Stall Recover System
STP	Status Test Panel
SUP	Supply
SYNC	Synchronize or Synchronizer
TAS	True Airspeed
TC	Thermocouple
TEU	Trailing Edge Up
TLOW	Tape Low
TO/GA	Takeoff/Go Around
TOD	Top of Descent
T/O FLX	Takeoff Flex
TOW	Takeoff Weight
TR	Thrust Rating
TRI	Thrust Rating Indicator

TRK	Track
TRND	Trend
TSFC	Thrust Specific Fuel Consumption
TT	Total Temperature
TURB	Turbulence
UFTD	Under Frequency Time Delay Circuit
USB	Upper Sideband
UVTD	Under Voltage Time Delay Circuit
VERT	Vertical
VG	Vertical Gyro
VMO	Maximum Allowable Airspeed
UOR	Variable Omni Range
V/N	Vertical Navigation
VNAV	Vertical Navigation
WF	Weight, Fuel (Fuel Flow)
WOW	Weight on Wheels
WPTS	Waypoints
W/W	Weather
WXR	Weather Radar
XTAL	Crystal
P	Delta Pressure (Differential Pressure)
PT7/PT2	Turbine Discharge Total Pressure/Compressor Inlet Total Pressure

MD 80 DIMENSIONS & AREAS

This chapter presents the aircraft dimensions, areas, zones, access doors, and station designations.

Dimensions and Areas

Dimensions are given for the aircraft overall length, width (wing span), height at vertical stabilizer, and ground clearance to the underside of wing, fuselage, engine nacelles, and other locations that will be pertinent during maintenance and servicing of the aircraft.

Aircraft Zoning

The aircraft has been divided and subdivided into areas, and zones to simplify the problems of locating work areas and components. A two-digit numbering system is used to identify areas and zones. Large sections of the aircraft are identified as areas, (first digit) with each area divided into zones (second digit). Major structural components, including landing gear, rudder, elevators, flaps, and ailerons, will have individual zone numbers.

Access Doors

Access door and panel information includes identification number, nominal open dimension, and the components or areas accessible. The door identification number is of four digits. The first indicates area, the second indicates the zone within the area, the last two digits are the door number within the area and zone.

Stations

The station designation system is used to identify reference planes and points in inches along those planes, providing a means of identifying the location of structure, center of gravity, and the distribution of weight.

Maintenance Communications

Service interphone system: For communication between the regular maintenance areas of the aircraft and the cockpit.

Very high frequency system: For communication between the cockpit and the tower or other aircraft.

The following illustration gives airplane minimum and maximum vertical clearance/dimension data.