



JOEL PLAICE & ASSOCIATES INC.

INTERNATIONAL SIMULATOR CONSULTING AND TECHNICAL SUPPORT SERVICES

Garuda MD11 Full Flight Simulator Technical Description

Simulator General Description	
Operator/Sponsor	Garuda Airlines
Location	Jakarta, Indonesia
Manufacturer	CAE, Montreal Canada
Original In-Service Date	1996
Current Status	Not currently operating

Simulated Aircraft	
Aircraft Manufacturer / Model	MD-11
Engine Manufacturer / Model	GE CF6-80C2 DIF; PW4060/4460
Tail # Still in Operator's Fleet	PK-GIG (not in fleet)

Qualification / Certification			
Authority:	Country:	Regulation or Standard:	Designation & ID #
Dept. of Transport	Canada	FAA Level D / Phase 3	

DGAC	Indonesia	FAA Level D	DSKU/0322/APP/98
Certification Event:	Certifying Authority:	Date:	
Initial Qualification	DoT Canada	January 1996	
Last Recurrent Evaluation	DGAC	April 1998	
Next Recurrent Evaluation	Not Current	April 2008	

Aircraft Avionics	
Unit / System:	Manufacturer / Model:
Flight Management	Software model - Honeywell 4059010-901
FMC Rehost Computer	IBM Risc/6000 J30 Model, FMC load 909, MCDU load 903, and DEU load 908
MCDU	Honeywell 4059051-902
GPWS / EGPWS	Sundstrand 965-0676 Mk V Warning Computer
EICAS / ECAM	Engine Instrument Spec – MDC K0909-01,02 MD11
EFIS Symbol Generator	CAE hardware – Software System Spec – Honeywell C72-2252-09 Rev D

Flight Compartment	
Primary Flight Instrument Type	Electronic
Engine Instrument Type	Electronic
Unit / System:	Manufacturer / Model:

ADI EADI PFD	PFD – CAE built – MA273611.02.2.308
HSI EHSI NFD	ND – CAE built – MA273611.02.2.308
CDU MCDU	Honeywell – 4059051-902
INS GPS EGPWS	Sundstrand 965-0676-020
Autopilot	Honeywell 4059002-903
TCAS	Simulated TCAS II, TTR-920
IVSI	N/A
RDDMI	N/A
Weather Radar	Simulated WX Radar and WR Landmass System
ACARS	AlliedSignals (Boeing) 965-0728-003
ATIS	CAE simulated ATIS/Digital Voice System
Auto Throttles Installed	Thrust Control Module, ABH7760-1, Honeywell 4059032-901
Heads Up Display	N/A
Simulator Upgrades	A1 update – engine update to include PW4060/PW4460

Motion System	
Manufacturer / Model	CAE series 600
Type (Hyd/Elec)	Hydraulic
Motion System Drive	Digital – DN1 (DMC16, FPMC-30, ADIO)

Number of Axis	6 Axis
Jack Stroke Length	60 inch Stroke
HPU Pump(s)	<ul style="list-style-type: none"> • 2 Motion Pumps • 1 Control Loading Pump • 1 Cooling Pump

Control Loading System	
Primary Controls:	
Manufacturer / Model	CAE
Type (Hyd/Elec)	Hydraulic
Control System Drive	Digital – DN1 (DMC16, FPMC-30, ADIO)
No. of Primary Channels	13
Loaded Primary Controls:	<i>Celelevator, Felevator, Stabtrim, Caileron, Failerion, Rudder, NWS, Ltoebrake, Rtoebrake, Speedbrake, Autospoiler, Flaps, AltIndgear</i>
Capt Aileron (Wheel)	Yes
Capt Elevator (Column)	Yes
Capt Rudder (Pedals)	Yes
FO Aileron (Wheel)	Yes
FO Elevator (Column)	Yes
FO Rudder (Pedals)	Yes
Nosewheel (Tiller)	Yes

Toe Brakes (L & R)	Yes
Secondary Controls	
Loaded Secondary Controls:	Installed:
Stab Trim	Primary (as above)
Speed Brake	Primary (as above)
Auto Throttles	Thrust Mode Control Unit (Aircraft)

Visual System - Image Generator	
IG Manufacturer / Model	CAE Maxvue (Not operable), Enhance A+
Number of Channels	3 Channels
Y2K Compliant	Yes
Visual System - Display System	
Display Type	WIDE Mirror
Field of View	180 Degrees x 40 Degrees (+20/-20)
Projector Manufacturer / Model	EIS Barco 5043
Window Display Configuration	Cross Cockpit
AutoCal	Yes
Visual Scenes	Jakarta, Bali, Surabaya, Solo, Yogyakarta, Padang, Medan, Balikpapan, Manado, Singapore, Darwin, Bangkok (old), Kuala Lumpur (old), Hong Kong (old), Amsterdam, Seattle, San Fran, LAX.

Host Computer / Linkage

Manufacturer / Model	IBM Risc 6000 model 590
Operating System / Version	AIX 3.2
Y2K Compliant	Yes
Upgrades	N/A
Linkage (I/O) Interface	CAE C-bus interface

Instructor Station

Manufacturer / Model	CAE Xterm Touchscreens
IOS Display	JCC XfaceC-N-7A-2
Computer	JCC Internal to Touchscreens
Y2K Compliant	Yes
Remote Control Unit	CAE PCU (Portable Control Unit)
Independent Crew Training	N/A
Features	<ul style="list-style-type: none">• Multi engine• Multi operator• kgs/lbs• meters/feet

Aural Cue System

Manufacturer / Model	CAE
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Type / Description	Digital
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Simulated Special Effects	
Feature:	Installed:
FAA / JAA Approved Windshear Profile(s)	FAA Windshear profiles 3.3A, 3.3B1, 3.3B2, 3.3B3, 3.3C, 3.3D
Microburst Model(s)	N/A
Simulated Oxygen System	Yes
Smoke Generation System	Yes – CO2 Bottle Type
CAT I, II, III	CAT 1, CAT 2, CAT III DH = 0 ft
ETOPS	N/A

Data Package (Installed and Certified in the Simulator)		
Category:	Documentation:	Revision:
Aerodynamic Model	MDC K0902-02 / K0911-05	D
Flight Controls Model	MDC K0911-02 / K0912-02 / K0913-02	D
Ground Handling	MDC K0913-01	D
Engine Model	GE CF6-80C2-DIF (MD11/GE80C2-DIF FADEC Rev 8.3F)	
Engine Model	PW 4060/4460 (PW4000 engine PWA-PPS-1931 scn 4E)	

Documentation				
Source:		Amounts Present (Selection is Bold and Underlined)		
Equipment Manufacturer (Boeing & CAE)				
0%	25%	50%	<u>75%</u>	100%
Vendor (Computer, Visual, Peripherals, etc.)				
0%	25%	50%	<u>75%</u>	100%
Operator (Airline, etc)				
0%	<u>25%</u>	50%	75%	100%

Spare Parts				
Source:		Amounts Present (Selection is Bold and Underlined)		
Aircraft Parts				
0%	<u>25%</u>	50%	75%	100%
Simulator Manufacturer				
<u>0%</u>	25%	50%	75%	100%
Visual Manufacturer				
<u>0%</u>	25%	50%	75%	100%
Vendor				
<u>0%</u>	25%	50%	75%	100%