



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-110B1 BYPASS RATIO: 7.3
UNIQUE ID NUMBER: 7GE097 PRESSURE RATIO (π_{00}): 39.7
COMBUSTOR: DAC
ENGINE TYPE: TF RATED THRUST (F_{00}) (kN): 492.6

REGULATORY DATA ** DATA SUPERSEDED ** SEE FOLLOWING UID FOR REVISED DATA: 21GE182

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	8.4	60.3	72.0	4.6
AS % OF ORIGINAL LIMIT	42.7	51.1	60.3	30.2
AS % OF CAEP/2 LIMIT (NO _x)			75.4	
AS % OF CAEP/4 LIMIT (NO _x)			83.3	
AS % OF CAEP/6 LIMIT (NO _x)			91.9	
AS % OF CAEP/8 LIMIT (NO _x)			103.5	

DATA STATUS

- PRE-REGULATION
x CERTIFICATION
- REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
x DEDICATED ENGINES TO PRODUCTION STANDARD
- OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
(ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
- OUT OF PRODUCTION (DATE: -)
- OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (% F_{00})	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO _x	SMOKE NUMBER
TAKE-OFF	100	0.7	4.320	0.03	0.07	44.44	3.6
CLIMB OUT	85	2.2	3.470	0.03	0.07	33.85	2.3
APPROACH	30	4.0	1.080	0.06	2.29	15.78	1.4
IDLE	7	26.0	0.370	4.55	40.59	5.11	1.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1479	2679	24212	30616	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D_p/F_{00} (g/kN) or AVERAGE SN (MAX)				5.4	49.2	62.2	3.6
SIGMA (D_p/F_{00} in g/kN, or SN)				0.1	0.5	1.0	0.9
RANGE (D_p/F_{00} in g/kN, or SN)				5.31-5.51	48.72-49.65	61.05-63.02	3.03-4.58

ACCESSORY LOADS

POWER EXTRACTION 0 (kW)
STAGE BLEED 0 (% CORE FLOW)

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.1-97.9
TEMPERATURE (K)	290.7-294.2
ABS HUMIDITY (kg/kg)	0.00514-0.00761

FUEL

SPEC	Jet A-1
H/C	1.94-1.96
AROM (%)	11.9-12.5

MANUFACTURER: General Electric Company
TEST ORGANIZATION: Peebles Test Operation
TEST LOCATION: Site 4D
TEST DATES: 23/11/2003-23/11/2003

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
x	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

REMARKS

- Smoke numbers corrected for fuel aromatics volume.
- GE Report R2003AE462
- Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
- NO_x levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)