



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-113B BYPASS RATIO: 7.17
 UNIQUE ID NUMBER: 7GE098 PRESSURE RATIO (π_{00}): 41.21
 ENGINE TYPE: TF RATED OUTPUT (F_{00}) (kN): 504.9

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	8.0	58.4	75.8	5.0
AS % OF ORIGINAL LIMIT	40.6 %	49.5 %	61.9 %	32.9 %
AS % OF CAEP/2 LIMIT (NOx)			77.4 %	
AS % OF CAEP/4 LIMIT (NOx)			84.7 %	
AS % OF CAEP/6 LIMIT (NOx)			93.1 %	
AS % OF CAEP/8 LIMIT (NOx)			104.5 %	

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
 - OUT OF SERVICE

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	4.530	0.03	0.08	47.74	3.88
CLIMB OUT	85	2.2	3.580	0.03	0.07	35.08	2.39
APPROACH	30	4.0	1.110	0.06	2.11	16.2	1.44
IDLE	7	26.0	0.380	4.37	39.72	5.16	0.9
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1518	2608	24007	33006	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				5.17	47.55	65.37	3.88
SIGMA (D _p /F _{oo} in g/kN, or SN)				0.11	0.48	0.98	1.04
RANGE (D _p /F _{oo} in g/kN, or SN)				5.04-5.27	47.12-48.06	64.29-66.21	3.13-5.07

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 % CORE FLOW AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.058-97.865
TEMPERATURE (K)	290.72-294.22
ABS HUMIDITY (kg/kg)	0.00514-0.00761

FUEL

SPEC	Jet A1
H/C	1.94-1.96
AROM (%)	11.9-12.5

MANUFACTURER: GE Transportation
 TEST ORGANIZATION: Peebles Test Operation
 TEST LOCATION: Site 4D
 TEST DATES: FROM 23 Nov 03 TO 23 Nov 03

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.
- NOx levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

If REVISED, this data supersedes databank UID
 Compliance with fuel venting requirements: 0 ('x' if complies, PR if pre-regulation)