



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-90B
UNIQUE ID NUMBER: 9GE127
ENGINE TYPE: TF

BYPASS RATIO: 8.36
PRESSURE RATIO (π_{00}): 39.85
RATED OUTPUT (F_{00}) (kN): 419.25

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	4.3	39.8	73.7	3.1
AS % OF ORIGINAL LIMIT	21.7 %	33.7 %	61.5 %	19.5 %
AS % OF CAEP/2 LIMIT (NOx)			76.9 %	
AS % OF CAEP/4 LIMIT (NOx)			84.9 %	
AS % OF CAEP/6 LIMIT (NOx)			93.6 %	
AS % OF CAEP/8 LIMIT (NOx)			105.5 %	

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_{00})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	3.380	0.04	0.3	49.21	2.42
CLIMB OUT	85	2.2	2.735	0.03	0.31	39.07	0.82
APPROACH	30	4.0	0.852	0.06	1.88	15.44	1
IDLE	7	26.0	0.280	2.59	29.89	5.48	0.95
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1144	1159	13593	26639	-
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)				2.77	32.42	63.54	2.42
SIGMA (D_p/F_{00} in g/kN, or SN)				0.26	1.07	0.57	0.84
RANGE (D_p/F_{00} in g/kN, or SN)				2.59-3.06	31.60-33.63	62.99-64.13	1.56-3.24

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.41 - 98.66
TEMPERATURE (K)	277.2 - 281.3
ABS HUMIDITY (kg/kg)	0.0015 - 0.0043

FUEL

SPEC	Jet A1
H/C	-
AROM (%)	15.0 - 16.0

MANUFACTURER: GE
TEST ORGANIZATION: General Electric Peebles Test Operation
TEST LOCATION: Site 6A
TEST DATES: FROM 30 Nov 07 TO 08 Dec 07

REMARKS

1. GE Aviation Report R2007AE851
2. Engine serial number 900-505/1
3. Turbomachinery incorporating 3D aero
4. Performance Enhanced Combustor (PEC)
5. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
6. 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:

x ('x' if complies, PR if pre-regulation)