



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-76B  
UNIQUE ID NUMBER: 9GE124  
COMBUSTOR: PEC  
ENGINE TYPE: TF

BYPASS RATIO: 8.5  
PRESSURE RATIO ( $\pi_{00}$ ): 35.5  
RATED THRUST ( $F_{00}$ ) (kN): 363.2

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	5.6	48.6	60.6	2.0
AS % OF ORIGINAL LIMIT	28.5	41.2	54.6	12.0
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			68.2	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			77.7	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			86.6	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			99.1	

### 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)  
x OUT OF PRODUCTION (DATE: - )  
- OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
TAKE-OFF	100	0.7	2.796	0.03	0.31	40.25	0.9
CLIMB OUT	85	2.2	2.281	0.03	0.32	32.43	0.8
APPROACH	30	4.0	0.738	0.07	2.77	13.76	1.4
IDLE	7	26.0	0.258	3.21	34.12	5.10	1.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			999	1318	14371	18984	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				3.6	39.6	52.3	1.6
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				0.3	1.1	0.7	0.8
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				3.43-3.98	38.85-40.77	51.52-52.95	0.82-2.4

### ACCESSORY LOADS

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

AT All POWER SETTINGS  
AT All POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.4-98.7
TEMPERATURE (K)	277.2-281.3
ABS HUMIDITY (kg/kg)	0.0015-0.0043

### FUEL

SPEC	Jet A-1
H/C	
AROM (%)	15-16

MANUFACTURER: General Electric Company  
TEST ORGANIZATION: General Electric Peebles Test Operation  
TEST LOCATION: Site 6A  
TEST DATES: 30/11/2007-08/12/2007

### NO<sub>x</sub> REGULATION PARAGRAPH

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

### 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. NO<sub>x</sub> levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements:

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