



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-76B  
UNIQUE ID NUMBER: 9GE120  
ENGINE TYPE: TF

BYPASS RATIO: 8.6  
PRESSURE RATIO ( $\pi_{oo}$ ): 35.45  
RATED OUTPUT ( $F_{oo}$ ) (kN): 354.32

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	6.8	57.4	69.8	2.0
AS % OF ORIGINAL LIMIT	34.7 %	48.6 %	62.9 %	12.2 %
AS % OF CAEP/2 LIMIT (NOx)			78.7 %	
AS % OF CAEP/4 LIMIT (NOx)			89.6 %	
AS % OF CAEP/6 LIMIT (NOx)			99.9 %	
AS % OF CAEP/8 LIMIT (NOx)			114.4 %	

### 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

### 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	2.981	0.04	0.32	42.68	0.89
CLIMB OUT	85	2.2	2.435	0.03	0.33	33.82	0.82
APPROACH	30	4.0	0.820	0.06	2.27	14.43	1.39
IDLE	7	26.0	0.292	3.37	34.99	5.01	1.59
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1100	1565	16557	21338	-
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)				4.42	46.73	60.22	1.59
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				0.34	1.08	0.7	0.82
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				4.18-4.80	45.97-47.97	59.52-60.92	0.82-2.46

### 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
AHS 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 2D aero
4. Performance Enhanced Combustor (PEC)

If REVISED, this data supersedes databank UID  
Compliance with fuel venting requirements:

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