ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-77B
UNIQUE ID NUMBER: 9GE121
ENGINE TYPE: TF

BYPASS RATIO: 8.58
PRESSURE RATIO (π_{oo}): 35.68
RATED OUTPUT (F_{oo}) (kN): 357.07

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	6.7	56.5	70.1	2.0
AS % OF ORIGINAL LIMIT	34.1 %	47.9 %	0.6 %	12.0 %
AS % OF CAEP/2 LIMIT (NOx)			78.7 %	
AS % OF CAEP/4 LIMIT (NOx)			89.4 %	
AS % OF CAEP/6 LIMIT (NOx)			99.7 %	
AS % OF CAEP/8 LIMIT (NOx)			114.0 %	

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) HC	CO	NOx	SMOKE NUMBER
TAKE-OFF	100	0.7	2.992	0.04	0.32	43.15	0.94
CLIMB OUT	85	2.2	2.443	0.03	0.33	34.16	0.82
APPROACH	30	4.0	0.821	0.06	2.23	14.52	1.4
IDLE	7	26.0	0.292	3.34	34.77	5.03	1.55
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1101	1548	16429	21592	-
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)				4.34	46.01	60.47	1.55
SIGMA (D_p/F_{oo} in g/kN, or SN)				0.33	1.1	0.69	0.79
RANGE (D_p/F_{oo} in g/kN, or SN)				4.10-4.72	45.25-47.27	59.78-61.16	0.82-2.39

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 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)