



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF34-10E5A1 BYPASS RATIO: 5.09
UNIQUE ID NUMBER: 8GE117 PRESSURE RATIO (π_{oo}): 27.3
ENGINE TYPE: TF RATED OUTPUT (F_{oo}) (kN): 83.7

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	11.1	94.3	46.3	9.0
AS % OF ORIGINAL LIMIT	56.4 %	79.9 %	48.9 %	36.3 %
AS % OF CAEP/2 LIMIT (NOx)			61.1 %	
AS % OF CAEP/4 LIMIT (NOx)			72.5 %	
AS % OF CAEP/6 LIMIT (NOx)			81.3 %	
AS % OF CAEP/8 LIMIT (NOx)			95.5 %	

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)
x OUT OF PRODUCTION (DATE: end 2007)
- 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	0.871	0.01	0.52	20.45	7.01
CLIMB OUT	85	2.2	0.720	0.05	0.39	16.88	2.85
APPROACH	30	4.0	0.244	0.06	3.37	8.14	0.48
IDLE	7	26.0	0.088	4.3	44.93	3.72	0.76
LTO TOTAL FUEL (kg) or EMISSIONS (g)			328	601	6430	3341	-
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)				7.18	76.81	39.91	7.01
SIGMA (D_p/F_{oo} in g/kN, or SN)				1.1	5.1	1.5	1.2
RANGE (D_p/F_{oo} in g/kN, or SN)				6.8-7.5	74.4-78.4	39.3-40.5	6.0-8.0

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.4-98.6
TEMPERATURE (K)	294-295
ABS HUMIDITY (kg/kg)	0.00922 - 0.01192

FUEL

SPEC	Jet A1
H/C	1.92 - 1.93
AROM (%)	18.1 - 19.3

MANUFACTURER: GE Transportation
TEST ORGANIZATION: Peebles Test Operation
TEST LOCATION: Site 4D
TEST DATES: FROM 24 Jul 04 TO 25 Jul 04

REMARKS

1. GE Reports R2004AE636 and R2006AE173
2. Block 1 Engines
3. Engine 994-110/1

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

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