



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF34-10E6A1      BYPASS RATIO: 5.09  
UNIQUE ID NUMBER: 11GE145      PRESSURE RATIO ( $\pi_{00}$ ): 27.2  
ENGINE TYPE: TF      RATED OUTPUT ( $F_{00}$ ) (kN): 83.7

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{00}$ (g/kN) or SN	10.5	88.9	44.5	16.4
AS % OF ORIGINAL LIMIT	53.4 %	75.3 %	47.1 %	66.0 %
AS % OF CAEP/2 LIMIT (NOx)			58.9 %	
AS % OF CAEP/4 LIMIT (NOx)			69.9 %	
AS % OF CAEP/6 LIMIT (NOx)			78.0 %	
AS % OF CAEP/8 LIMIT (NOx)			92.0 %	

### 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)  
- 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
TAKE-OFF	100	0.7	0.870	0.05	0.89	19.68	12.74
CLIMB OUT	85	2.2	0.717	0.09	0.77	16.22	6.91
APPROACH	30	4.0	0.239	0.1	4.02	7.94	0.1
IDLE	7	26.0	0.088	4.02	41.73	3.69	0.5
LTO TOTAL FUEL (kg) or EMISSIONS (g)			326	568	6067	3214	-
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)				6.79	72.5	38.4	12.7
SIGMA ( $D_p/F_{00}$ in g/kN, or SN)				0.68	2.5	0.24	1.51
RANGE ( $D_p/F_{00}$ in g/kN, or SN)				6.3-7.6	70.0-75.0	38.2-38.7	11.6-14.4

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.2-97.9
TEMPERATURE (K)	292-298
ABS HUMIDITY (kg/kg)	0.0053 - 0.0078

### FUEL

SPEC	Jet A1
H/C	1.92
AROM (%)	15.9% - 17.5%

MANUFACTURER: GE Transportation  
TEST ORGANIZATION: Peebles Test Operation  
TEST LOCATION: Site 3C  
TEST DATES: FROM 05 Jun 09 TO 06 Jun 09

### REMARKS

1. GE Report R2008AE622Block 2 Engines
2. Engine 994-743/1
3. Engines with 2251M21 combustor or equivalent
4. Alternate fuel injector manufacturer
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 e)

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

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