



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF34-10E5  
UNIQUE ID NUMBER: 10GE129  
ENGINE TYPE: TF

BYPASS RATIO: 5.09  
PRESSURE RATIO ( $\pi_{00}$ ): 25.6  
RATED OUTPUT ( $F_{00}$ ) (kN): 77.4

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{00}$ (g/kN) or SN	16.9	107.3	42.5	14.6
AS % OF ORIGINAL LIMIT	86.2 %	90.9 %	46.6 %	57.5 %
AS % OF CAEP/2 LIMIT (NOx)			58.3 %	
AS % OF CAEP/4 LIMIT (NOx)			68.1 %	
AS % OF CAEP/6 LIMIT (NOx)			75.2 %	
AS % OF CAEP/8 LIMIT (NOx)			87.4 %	

### 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)  
- 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
				HC	CO	NOx	
TAKE-OFF	100	0.7	0.789	0.047	0.59	18.66	11.33
CLIMB OUT	85	2.2	0.650	0.08	0.35	15.54	5.22
APPROACH	30	4.0	0.221	0.136	3.77	8.08	0.11
IDLE	7	26.0	0.084	6.391	49.98	3.51	0.39
LTO TOTAL FUEL (kg) or EMISSIONS (g)			303	848	6761	2836	-
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)				10.97	87.4	36.7	11.3
SIGMA ( $D_p/F_{00}$ in g/kN, or SN)				0.6	1.9	0.42	0.6
RANGE ( $D_p/F_{00}$ in g/kN, or SN)				10.3-11.4	85.7-89.4	36.2-37.0	10.8-12.0

### 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)	296-300
ABS HUMIDITY (kg/kg)	0.0099 - 0.0127

### FUEL

SPEC	Jet A1
H/C	1.92
AROM (%)	16.3-17.4

MANUFACTURER: GE Transportation  
TEST ORGANIZATION: Peebles Test Operation  
TEST LOCATION: Site 4D  
TEST DATES: FROM 05 Sep 06 TO 10 Sep 06

### REMARKS

1. GE Report R2006AE716
2. Block 2 Engines
3. Engine 994-251/1
4. Engines with 2253M21 combustor produced beginning August 2007
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)