



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF6-50CA  
UNIQUE ID NUMBER: 3GE071  
ENGINE TYPE: TF

BYPASS RATIO: 4.3  
PRESSURE RATIO ( $\pi_{00}$ ): 27.76  
RATED OUTPUT ( $F_{00}$ ) (kN): 224.2

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{00}$ (g/kN) or SN	5.3	37.7	57.5	16.1
AS % OF ORIGINAL LIMIT	27.0 %	31.9 %	60.2 %	84.9 %
AS % OF CAEP/2 LIMIT (NOx)			75.2 %	
AS % OF CAEP/4 LIMIT (NOx)			90.7 %	
AS % OF CAEP/6 LIMIT (NOx)			103.0 %	
AS % OF CAEP/8 LIMIT (NOx)			122.4 %	

### DATA STATUS

- PRE-REGULATION  
x CERTIFICATION  
- REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
- 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 (% $F_{00}$ )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
TAKE-OFF	100	0.7	2.281	0.14	0.44	28.03	11.41
CLIMB OUT	85	2.2	1.875	0.14	0.46	24.3	11.83
APPROACH	30	4.0	0.641	0.29	3.99	10.09	1.61
IDLE	7	26.0	0.163	2.72	24.04	3.4	1.4
LTO TOTAL FUEL (kg) or EMISSIONS (g)			751	784	6883	11116	-
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)				3.47	30.73	49.59	12.52
SIGMA ( $D_p/F_{00}$ in g/kN, or SN)				0.09	0.48	2.93	1.79
RANGE ( $D_p/F_{00}$ in g/kN, or SN)				3.38-3.56	30.32-31.25	47.66-52.96	10.68-14.00

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.73-97.91
TEMPERATURE (K)	292.3-301.3
ABS HUMIDITY (kg/kg)	.0127-.0216

### FUEL

SPEC	Jet A
H/C	1.935
AROM (%)	16.3

MANUFACTURER: GE  
TEST ORGANIZATION: GE Development/Production Test Operation  
TEST LOCATION: Site IVD, Peebles, Ohio  
TEST DATES: FROM 28 Jul 87 TO 29 Jul 87

### REMARKS

- Engine equipped with low emissions fuel nozzle config.
- GE Report R87AEB559.
- Engine 530375/001.
- Idle emissions calculated at normal idle setting rather than 7%.

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

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