



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B5/P  
UNIQUE ID NUMBER: 3CM027  
ENGINE TYPE: TF  
BYPASS RATIO: 5.9  
PRESSURE RATIO ( $\pi_{oo}$ ): 23.33  
RATED OUTPUT ( $F_{oo}$ ) (kN): 97.89

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	15.3	59.3	44.3	7.0
AS % OF ORIGINAL LIMIT	78.1 %	50.3 %	51.1 %	29.4 %
AS % OF CAEP/2 LIMIT (NOx)			63.9 %	
AS % OF CAEP/4 LIMIT (NOx)			78.6 %	
AS % OF CAEP/6 LIMIT (NOx)			89.4 %	
AS % OF CAEP/8 LIMIT (NOx)			108.8 %	

### 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 (% $F_{oo}$ )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	0.891	0.2	0.9	21.9	5.4
CLIMB OUT	85	2.2	0.742	0.2	1	18.5	1.6
APPROACH	30	4.0	0.260	0.7	3.4	8.7	0.3
IDLE	7	26.0	0.094	6.2	30	3.8	0.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			344	980	4743	3732	-
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)				9.96	48.31	38.23	5.4
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.2-99.6
TEMPERATURE (K)	281.5-283.6
ABS HUMIDITY (kg/kg)	.0065-.0075

### FUEL

SPEC	Jet A
H/C	1.92
AROM (%)	19

MANUFACTURER: GE  
TEST ORGANIZATION: CFM56-5B Eval Engineering  
TEST LOCATION: Techspace-Aero Facility, Liege, Belgium  
TEST DATES: FROM Nov 95 TO -

### REMARKS

- FAA Certification Report CR-797/P, June 95.
- Engine S/N 779-194/1

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

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