



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B4  
UNIQUE ID NUMBER: 2CM014  
COMBUSTOR:  
ENGINE TYPE: TF  
BYPASS RATIO: 5.9  
PRESSURE RATIO ( $\pi_{00}$ ): 27.1  
RATED THRUST ( $F_{00}$ ) (kN): 117.9

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	8.8	58.1	57.6	15.1
AS % OF ORIGINAL LIMIT	44.8	49.2	61.1	66.7
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			76.4	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			92.4	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			105.0	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			125.1	

### 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 (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
TAKE-OFF	100	0.7	1.166	0.10	0.50	28.70	10.0
CLIMB OUT	85	2.2	0.961	0.10	0.50	23.30	11.7
APPROACH	30	4.0	0.326	0.13	2.33	10.00	0.0
IDLE	7	26.0	0.107	3.87	31.90	4.30	0.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			421	674	5595	5861	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				5.7	47.3	49.7	11.7
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				0.4	0.4	0.5	1.3
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				5.26-6.04	47-47.7	49.3-50.2	10.2-12.7

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW)  
STAGE BLEED 0 (% CORE FLOW)

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.5-98.2
TEMPERATURE (K)	283.4-293.9
ABS HUMIDITY (kg/kg)	0.0067-0.0076

### FUEL

SPEC	Jet A
H/C	1.93
AROM (%)	16.8

MANUFACTURER: CFM International  
TEST ORGANIZATION: CFM56 Evaluation Engineering  
TEST LOCATION: Peebles Site IIIB  
TEST DATES: 07/10/1992-08/10/1992

### REMARKS

1. Ref GE Report R92AEB262.
2. Engine S/N 779101

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)