



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5C4/P
UNIQUE ID NUMBER: 7CM047
COMBUSTOR: SAC
ENGINE TYPE: MTF

BYPASS RATIO: 6.6
PRESSURE RATIO (π_{co}): 30.5
RATED THRUST (F_{oo}) (kN): 149.9

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	9.3	48.9	59.0	15.4
AS % OF ORIGINAL LIMIT	47.4	41.4	58.4	72.7
AS % OF CAEP/2 LIMIT (NO _x)			73.0	
AS % OF CAEP/4 LIMIT (NO _x)			86.8	
AS % OF CAEP/6 LIMIT (NO _x)			98.4	
AS % OF CAEP/8 LIMIT (NO _x)			115.4	

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 (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	1.395	0.00	0.80	34.10	12.0
CLIMB OUT	85	2.2	1.143	0.00	0.70	26.70	9.6
APPROACH	30	4.0	0.370	0.00	1.60	9.90	1.0
IDLE	7	26.0	0.115	5.00	31.60	4.10	1.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			478	897	5964	7641	-
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)				6.0	39.9	50.9	12.0
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)
STAGE BLEED 0 (% CORE FLOW)

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.8-98.1
TEMPERATURE (K)	286-295
ABS HUMIDITY (kg/kg)	0.0061-0.0074

FUEL

SPEC	Jet A
H/C	1.95
AROM (%)	17.3

MANUFACTURER: CFM International
TEST ORGANIZATION: CFM56 Evaluation Engineering
TEST LOCATION: PTO Site IVD
TEST DATES: 01/06/1991

REMARKS

1. Ref GE Report R91AEB471 and FAA Certification Report CR-897/P, July 2003
2. Engine S/N 740-105
3. Data also apply to CFM56-5C4/1P.
4. Core engine Smoke Numbers reported

Compliance with Fuel Venting requirements:

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