



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5C3/P
UNIQUE ID NUMBER: 7CM046
COMBUSTOR: SAC
ENGINE TYPE: MTF

BYPASS RATIO: 6.7
PRESSURE RATIO (π_{00}): 29.2
RATED THRUST (F_{00}) (kN): 143.3

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	10.2	52.6	55.4	14.9
AS % OF ORIGINAL LIMIT	52.0	44.6	56.3	69.5
AS % OF CAEP/2 LIMIT (NO _x)			70.4	
AS % OF CAEP/4 LIMIT (NO _x)			84.3	
AS % OF CAEP/6 LIMIT (NO _x)			95.8	
AS % OF CAEP/8 LIMIT (NO _x)			113.1	

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 ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	1.316	0.00	0.80	31.60	11.6
CLIMB OUT	85	2.2	1.085	0.00	0.70	25.10	9.0
APPROACH	30	4.0	0.355	0.00	1.90	9.60	1.0
IDLE	7	26.0	0.112	5.40	33.40	4.00	1.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			458	943	6142	6858	-
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)				6.6	42.8	47.8	11.6
SIGMA (D _p /F ₀₀ in g/kN, or SN)							
RANGE (D _p /F ₀₀ 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)