



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5C4
UNIQUE ID NUMBER: 2CM015
COMBUSTOR:
ENGINE TYPE: MTF

BYPASS RATIO: 6.6
PRESSURE RATIO (π_{00}): 31.2
RATED THRUST (F_{00}) (kN): 151.3

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	9.9	51.1	66.7	16.2
AS % OF ORIGINAL LIMIT	50.5	43.3	65.2	76.7
AS % OF CAEP/2 LIMIT (NO _x)			81.5	
AS % OF CAEP/4 LIMIT (NO _x)			96.2	
AS % OF CAEP/6 LIMIT (NO _x)			108.9	
AS % OF CAEP/8 LIMIT (NO _x)			127.2	

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)	HC	CO	NO _x	SMOKE NUMBER
TAKE-OFF	100	0.7	1.456	0.01	1.00	37.67	12.6
CLIMB OUT	85	2.2	1.195	0.01	0.85	29.05	9.8
APPROACH	30	4.0	0.386	0.07	1.40	10.67	1.0
IDLE	7	26.0	0.124	5.00	30.93	4.28	1.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			505	975	6308	8702	-
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)				6.4	41.6	57.5	12.6
SIGMA (D _p /F ₀₀ in g/kN, or SN)				0.4	1.4	0.3	1.4
RANGE (D _p /F ₀₀ in g/kN, or SN)				5.95-6.83	39.7-42.4	57.2-57.9	10.7-13.6

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: 04/06/1991-05/06/1991

REMARKS

1. Ref GE Report R91AEB471
2. Engine S/N 740-105.
3. Core engine Smoke Numbers reported

Compliance with Fuel Venting requirements:

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