



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-3-B1 BYPASS RATIO: 5.1
UNIQUE ID NUMBER: 1CM004 PRESSURE RATIO (π_{oo}): 22.4
ENGINE TYPE: TF RATED OUTPUT (F_{oo}) (kN): 89.4

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	7.2	89.5	46.7	5.1
AS % OF ORIGINAL LIMIT	36.7 %	75.8 %	55.0 %	21.1 %
AS % OF CAEP/2 LIMIT (NOx)			68.8 %	
AS % OF CAEP/4 LIMIT (NOx)			85.1 %	
AS % OF CAEP/6 LIMIT (NOx)			96.7 %	
AS % OF CAEP/8 LIMIT (NOx)			118.3 %	

DATA STATUS

- PRE-REGULATION
- CERTIFICATION
x 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	0.946	0.04	0.9	17.7	4
CLIMB OUT	85	2.2	0.792	0.05	0.95	15.5	2.5
APPROACH	30	4.0	0.290	0.08	3.8	8.3	2.5
IDLE	7	26.0	0.114	2.28	34.4	3.9	2.2
LTO TOTAL FUEL (kg) or EMISSIONS (g)			392	418	6517	3595	-
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)				4.67	72.9	40.3	4
SIGMA (D_p/F_{oo} in g/kN, or SN)				0.53	5.1	0.8	0.6
RANGE (D_p/F_{oo} in g/kN, or SN)				4.17-5.22	68.5-78.5	39.6-41.2	3.4-4.5

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	95.98-97.49
TEMPERATURE (K)	279 - 286
ABS HUMIDITY (kg/kg)	.002-.009

FUEL

SPEC	Jet A
H/C	1.93
AROM (%)	16

MANUFACTURER: CFMI
TEST ORGANIZATION: CFM56 Evaluation Engineering
TEST LOCATION: Peebles Site IVD
TEST DATES: FROM 11 Nov 83 TO 14 Nov 83

REMARKS

1. Ref GE Report R84AEB245.
2. Engine S/N 692441.
3. Revised based on 3/89 production cycle.
4. Data also apply to CFM56-3C-1 and -3B-2 engines rerated to 89.4 kN (20,100 Lb) thrust for B737-300 aircraft.

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

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