



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B4
UNIQUE ID NUMBER: 2CM014
ENGINE TYPE: TF

BYPASS RATIO: 5.9
PRESSURE RATIO (π_{oo}): 27.1
RATED OUTPUT (F_{oo}) (kN): 117.9

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (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 (NOx)			76.4 %	
AS % OF CAEP/4 LIMIT (NOx)			92.4 %	
AS % OF CAEP/6 LIMIT (NOx)			105.0 %	
AS % OF CAEP/8 LIMIT (NOx)			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

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	1.166	0.1	0.5	28.7	10
CLIMB OUT	85	2.2	0.961	0.1	0.5	23.3	11.7
APPROACH	30	4.0	0.326	0.13	2.33	10	0
IDLE	7	26.0	0.107	3.87	31.9	4.3	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_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				5.7	47.3	49.7	11.7
SIGMA (D_p/F_{oo} in g/kN, or SN)				0.4	0.38	0.5	1.3
RANGE (D_p/F_{oo} in g/kN, or SN)				5.26-6.04	47.0-47.7	49.3-50.2	10.2-12.7

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.49 - 98.18
TEMPERATURE (K)	283.4 - 293.9
AHS HUMIDITY (kg/kg)	.0067 - .0076

FUEL

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

MANUFACTURER: CFMI
TEST ORGANIZATION: CFM56 Evaluation Engineering
TEST LOCATION: Peebles Site IIIB
TEST DATES: FROM 07 Oct 92 TO 08 Oct 92

REMARKS

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

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

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