



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B2/2P
UNIQUE ID NUMBER: 4CM037
ENGINE TYPE: TF

BYPASS RATIO: 5.6
PRESSURE RATIO (π_{oo}): 31.6
RATED OUTPUT (F_{oo}) (kN): 137.9

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	8.0	75.7	46.3	2.5
AS % OF ORIGINAL LIMIT	40.7 %	64.2 %	44.9 %	11.6 %
AS % OF CAEP/2 LIMIT (NOx)			56.1 %	
AS % OF CAEP/4 LIMIT (NOx)			66.0 %	
AS % OF CAEP/6 LIMIT (NOx)			74.5 %	
AS % OF CAEP/8 LIMIT (NOx)			86.8 %	

DATA STATUS

- PRE-REGULATION
x CERTIFICATION
- REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
x 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	1.390	0.1	0.7	29.4	0.5
CLIMB OUT	85	2.2	1.110	0.1	1.6	17.5	0.3
APPROACH	30	4.0	0.390	3.3	21.4	7.6	0.5
IDLE	7	26.0	0.130	2.7	35.5	4.2	2.2
LTO TOTAL FUEL (kg) or EMISSIONS (g)			501	877	9478	5844	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				6.13	66.47	42.12	2.15
SIGMA (D_p/F_{oo} in g/kN, or SN)				-	-	-	-
RANGE (D_p/F_{oo} in g/kN, or SN)				5.6-6.7	62.6-70.3	41.4-42.9	2.0-2.3

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.5-99.74
TEMPERATURE (K)	284.6-292.4
ABS HUMIDITY (kg/kg)	.0081-.0115

FUEL

SPEC	Jet A
H/C	1.93
AROM (%)	17.33

MANUFACTURER: CFM International
TEST ORGANIZATION: GEAE Peebles Testing Facility + Techspace Aero (CFMI)
TEST LOCATION: Peebles, Ohio, USA + Liers, Belgium
TEST DATES: FROM Aug 96 TO Sep 96

REMARKS

DAC-II Combustor P/N 1968M99G04

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

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