



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-7B22/2
UNIQUE ID NUMBER: 4CM040
ENGINE TYPE: TF

BYPASS RATIO: 5.3
PRESSURE RATIO (π_{00}): 24.61
RATED OUTPUT (F_{00}) (kN): 100.97

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	19.0	112.7	32.4	0.8
AS % OF ORIGINAL LIMIT	97.1 %	95.5 %	36.4 %	3.2 %
AS % OF CAEP/2 LIMIT (NOx)			45.4 %	
AS % OF CAEP/4 LIMIT (NOx)			55.6 %	
AS % OF CAEP/6 LIMIT (NOx)			63.1 %	
AS % OF CAEP/8 LIMIT (NOx)			76.2 %	

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

MEASURED DATA

MODE	POWER SETTING (% F_{00})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	1.008	0.06	2.18	15.08	0.7
CLIMB OUT	85	2.2	0.837	0.1	6.58	12.16	0.7
APPROACH	30	4.0	0.303	6.06	30.87	6.37	0.7
IDLE	7	26.0	0.105	7.26	45.35	3.94	0.7
LTO TOTAL FUEL (kg) or EMISSIONS (g)			389	1643	10492	3091	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				3	3	3	3
AVERAGE D_p/F_{00} (g/kN) or AVERAGE SN (MAX)				16.31	104.18	30.63	0.69
SIGMA (D_p/F_{00} in g/kN, or SN)				-	-	-	-
RANGE (D_p/F_{00} in g/kN, or SN)				14.6-18.2	96.9-111.7	30.4-30.9	0.1-1.8

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.9-98.0
TEMPERATURE (K)	292.8-296.7
ABS HUMIDITY (kg/kg)	.00814-.0131

FUEL

SPEC	Jet A
H/C	1.93-1.94
AROM (%)	18.0-19.2

MANUFACTURER: GE
TEST ORGANIZATION: CFM56-7B Eval Engineering
TEST LOCATION: Peebles Test Operation (PTO) Peebles, OH
TEST DATES: FROM 30 Aug 97 TO 12 Sep 97

REMARKS

- FAA Certification Report CR-997/2, 14 Nov 97
- Engine S/N 874-136/01, 874-141/01, 874-146/01

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

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