



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-7B24/3
UNIQUE ID NUMBER: 8CM064
ENGINE TYPE: TF

BYPASS RATIO: 5.3
PRESSURE RATIO (π_{00}): 25.6
RATED OUTPUT (F_{00}) (kN): 107.6

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	4.1	58.8	39.3	13.3
AS % OF ORIGINAL LIMIT	20.9 %	49.8 %	43.1 %	57.2 %
AS % OF CAEP/2 LIMIT (NOx)			53.9 %	
AS % OF CAEP/4 LIMIT (NOx)			65.5 %	
AS % OF CAEP/6 LIMIT (NOx)			74.5 %	
AS % OF CAEP/8 LIMIT (NOx)			89.5 %	

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)
- OUT OF PRODUCTION
- 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	1.086	0.02	0.18	18.93	12.1
CLIMB OUT	85	2.2	0.895	0.03	0.15	15.6	8.7
APPROACH	30	4.0	0.308	0.06	3.68	8.6	2.1
IDLE	7	26.0	0.103	2.3	34.71	4.09	2.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			398	377	5854	3995	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				7	7	7	7
AVERAGE D_p/F_{00} (g/kN) or AVERAGE SN (MAX)				3.51	54.38	37.11	12.07
SIGMA (D_p/F_{00} in g/kN, or SN)				0.45	2.8	1.2	3.4
RANGE (D_p/F_{00} in g/kN, or SN)				3.01 to 3.8	51.2 to 56.4	36.1 to 38.5	8.3 to 14.7

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.6 to 98.5
TEMPERATURE (K)	277 to 293
ABS HUMIDITY (kg/kg)	0.00150 to 0.00628

FUEL

SPEC	Jet A
H/C	1.92 - 1.93
AROM (%)	16.2 - 17.5

MANUFACTURER: CFM International
TEST ORGANIZATION: GE Aviation
TEST LOCATION: PTO, Ohio, USA
TEST DATES: FROM 29 Sep 05 TO 23 Mar 06

REMARKS

1. Ref. GE REPORT CR-2097/3 Rev1
2. Engine S/N 874-026/01, 778-024/01B, and 892-769/01
3. Data also apply to models CFM56-7B24/3 and -7B24/3B1
4. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
5. NOx levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

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

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