ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5A4   BYPASS RATIO: 6
UNIQUE ID NUMBER: 4CM035   PRESSURE RATIO (π_{oo}):   23.8
ENGINE TYPE: TF   RATED OUTPUT (F_{oo}) (kN):   97.89

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	5.1	41.9	45.6	17.9
AS % OF ORIGINAL LIMIT	25.9 %	35.5 %	52.0 %	75.1 %
AS % OF CAEP/2 LIMIT (NOx)			65.0 %	
AS % OF CAEP/4 LIMIT (NOx)			79.8 %	
AS % OF CAEP/6 LIMIT (NOx)			90.7 %	
AS % OF CAEP/8 LIMIT (NOx)			110.2 %	

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_{oo})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	0.897	0.23	1.1	22.64	13.9
CLIMB OUT	85	2.2	0.740	0.23	1.1	19.11	11.6
APPROACH	30	4.0	0.261	0.5	3.1	8.51	4.2
IDLE	7	26.0	0.095	1.75	20.3	4.04	2.4
LTO TOTAL FUEL (kg) or EMISSIONS (g)			346	322	3352	3851	–
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)				3.3	34.1	39.3	13.9
SIGMA (D_p/F_{oo} in g/kN, or SN)				–	–	–	–
RANGE (D_p/F_{oo} in g/kN, or SN)				–	–	–	–

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	94.70-95.60
TEMPERATURE (K)	280-291
ABS HUMIDITY (kg/kg)	.0026-.0034

FUEL

SPEC	Jet A
H/C	1.95
AROM (%)	18

MANUFACTURER: CFMI
TEST ORGANIZATION: CFM56 Evaluation Engineering
TEST LOCATION: Peebles Site IIIC
TEST DATES: FROM   19 Nov 86   TO 20 Nov 86

REMARKS

1. Ref GE Reports R89AEB316 and R87AEB386
2. Engine S/N 730002/2

If REVISED, this data supersedes databank UID
Compliance with fuel venting requirements: 0   ('x' if complies, PR if pre-regulation)