ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-7B20/2   BYPASS RATIO: 5.4
UNIQUE ID NUMBER: 4CM039   PRESSURE RATIO (π_{oo}):   22.77
ENGINE TYPE: TF   RATED OUTPUT (F_{oo}) (kN): 91.63

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	17.0	117.5	32.4	1.7
AS % OF ORIGINAL LIMIT	86.9 %	99.6 %	37.9 %	6.9 %
AS % OF CAEP/2 LIMIT (NOx)			47.3 %	
AS % OF CAEP/4 LIMIT (NOx)			58.4 %	
AS % OF CAEP/6 LIMIT (NOx)			66.4 %	
AS % OF CAEP/8 LIMIT (NOx)			81.1 %	

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) HC	CO	NOx	SMOKE NUMBER
TAKE-OFF	100	0.7	0.903	0.07	4.26	13.25	0.7
CLIMB OUT	85	2.2	0.754	0.23	11.38	10.81	0.7
APPROACH	30	4.0	0.278	0.36	11.37	9.39	1.5
IDLE	7	26.0	0.102	8.11	49.71	3.75	0.7
LTO TOTAL FUEL (kg) or EMISSIONS (g)			363	1340	9963	2802	–
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				3	3	3	3
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				14.61	108.63	30.58	1.52
SIGMA (D_p/F_{oo} in g/kN, or SN)				–	–	–	–
RANGE (D_p/F_{oo} in g/kN, or SN)				13.8-15.9	102.1-114.9	30.4-30.8	0 -3.4

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

1. FAA Certification Report CR-997/2, 14 Nov 97
2. 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)