ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5-A1   BYPASS RATIO: 6
UNIQUE ID NUMBER: 1CM008   PRESSURE RATIO (π_{oo}):   26.6
ENGINE TYPE: TF   RATED OUTPUT (F_{oo}) (kN):   111.2

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	4.0	34.2	46.9	20.3
AS % OF ORIGINAL LIMIT	20.4 %	29.0 %	50.4 %	88.5 %
AS % OF CAEP/2 LIMIT (NOx)			63.0 %	
AS % OF CAEP/4 LIMIT (NOx)			76.3 %	
AS % OF CAEP/6 LIMIT (NOx)			86.7 %	
AS % OF CAEP/8 LIMIT (NOx)			103.5 %	

DATA STATUS   TEST ENGINE STATUS

    -    PRE-REGULATION   x   NEWLY MANUFACTURED ENGINES
    -    CERTIFICATION   -   DEDICATED ENGINES TO PRODUCTION STANDARD
    x   REVISED (SEE REMARKS)   -   OTHER (SEE REMARKS)

EMISSIONS STATUS   CURRENT ENGINE STATUS

    x   DATA CORRECTED TO REFERENCE   (IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
         (ANNEX 16 VOLUME II)   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	1.051	0.23	0.9	24.6	15.8
CLIMB OUT	85	2.2	0.862	0.23	0.9	19.6	14
APPROACH	30	4.0	0.291	0.4	2.5	8	4.4
IDLE	7	26.0	0.101	1.4	17.6	4	2.3
LTO TOTAL FUEL (kg) or EMISSIONS (g)			385	285	3093	4506	–
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)				2.6	27.9	40.5	15.8
SIGMA (D_p/F_{oo} in g/kN, or SN)				0.5	0.7	0.6	2
RANGE (D_p/F_{oo} in g/kN, or SN)				2.3-3.2	27.0-28.4	39.9-40.9	13.5-17.3

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS   FUEL

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

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 Report R87AEB368.
2. Engine S/N 730002/2.
3. Data revised and corrected April 93.

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