ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4164
UNIQUE ID NUMBER: 1PW049
ENGINE TYPE: TF

BYPASS RATIO: 5.2
PRESSURE RATIO (π_{oo}): 31.24
RATED OUTPUT (F_{oo}) (kN): 284.68

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	8.2	40.5	70.1	4.2
AS % OF ORIGINAL LIMIT	41.6 %	34.3 %	68.4 %	23.9 %
AS % OF CAEP/2 LIMIT (NOx)			85.5 %	
AS % OF CAEP/4 LIMIT (NOx)			100.9 %	
AS % OF CAEP/6 LIMIT (NOx)			114.1 %	
AS % OF CAEP/8 LIMIT (NOx)			133.3 %	

DATA STATUS

- \- PRE-REGULATION
- x CERTIFICATION
- \- REVISED (SEE REMARKS)

TEST ENGINE STATUS

- \- NEWLY MANUFACTURED ENGINES
- x 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 ($\%F_{oo}$)	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg) HC	CO	NOx	SMOKE NUMBER
TAKE-OFF	100	0.7	2.626	0.03	0.69	38.57	3.3
CLIMB OUT	85	2.2	2.179	0.04	0.79	31.66	2.4
APPROACH	30	4.0	0.754	0.16	1.86	14.1	0.6
IDLE	7	26.0	0.210	4.46	26.67	4.03	0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			906	1505	9377	17232	-
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)				5.3	33	60.5	3.3
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)	101.3
TEMPERATURE (K)	273.5
ABS HUMIDITY (kg/kg)	0.0018

FUEL

SPEC	Jet A
H/C	1.89
AROM (%)	21.85

MANUFACTURER: Pratt & Whitney
TEST ORGANIZATION: Pratt & Whitney
TEST LOCATION: East Hartford, CT
TEST DATES: FROM 14 Feb 93 TO 17 Feb 93

REMARKS

Data from X821-3 with Floatwall Combustor

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