



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4077D
 UNIQUE ID NUMBER: 10PW097
 ENGINE TYPE: TF

BYPASS RATIO: 6.6
 PRESSURE RATIO (π_{00}): 33.3
 RATED OUTPUT (F_{00}) (kN): 355.7

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	5.1	39.5	67.4	5.7
AS % OF ORIGINAL LIMIT	25.8 %	33.5 %	63.2 %	34.4 %
AS % OF CAEP/2 LIMIT (NOx)			79.0 %	
AS % OF CAEP/4 LIMIT (NOx)			91.6 %	
AS % OF CAEP/6 LIMIT (NOx)			102.8 %	
AS % OF CAEP/8 LIMIT (NOx)			118.8 %	

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 _{oo})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	3.172	0.02	0.29	44.68	4.9
CLIMB OUT	85	2.2	2.562	0.02	0.34	34.05	2.57
APPROACH	30	4.0	0.892	0.04	0.86	11.63	0.66
IDLE	7	26.0	0.310	2.82	24.8	3.81	0.34
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1169	1382	12331	21800	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				3.88	34.67	61.29	4.9
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)	101.1 - 102.5
TEMPERATURE (K)	275.5 - 302.5
ABS HUMIDITY (kg/kg)	0.0033 - 0.0112

FUEL

SPEC	Jet A
H/C	1.85 - 1.92
AROM (%)	17

MANUFACTURER: Pratt & Whitney
 TEST ORGANIZATION: Pratt & Whitney
 TEST LOCATION: Middletown, CT
 TEST DATES: FROM 13 Apr 10 TO 13 Apr 10

REMARKS

1. Data updated to reflect additional engine test as well as updated engine performance.
2. Additional engine tested to show CAEP/4 compliance.
3. Certification in accordance with Part III, Chapter 2, of Amendment 4 of ICAO Annex 16 Vol. II.
4. NOx levels in accordance with Part III, Chapter 2, 2.3.2 c) (CAEP/4)

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

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