ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION:	PW307A	BYPASS RATIO:	4.2
UNIQUE ID NUMBER:	16PW114	PRESSURE RATIO (π_{oo}):	20.2
ENGINE TYPE:	MTF	RATED OUTPUT (F_{oo}) (kN):	28.5

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	5.6	99.1	45.3	1.9
AS % OF ORIGINAL LIMIT	28.6 %	84.0 %	56.3 %	5.7 %
AS % OF CAEP/2 LIMIT (NOx)			70.4 %	
AS % OF CAEP/4 LIMIT (NOx)			70.8 %	
AS % OF CAEP/6 LIMIT (NOx)			71.0 %	
AS % OF CAEP/8 LIMIT (NOx)			75.0 %	

DATA STATUS

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

TEST ENGINE STATUS

- x 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	0.327	0	0.27	18.28	0.65
CLIMB OUT	85	2.2	0.272	0	0.23	15.58	0.32
APPROACH	30	4.0	0.102	0	3.23	8.77	0
IDLE	7	26.0	0.044	1.99	36.92	2.86	1.69
LTO TOTAL FUEL (kg) or EMISSIONS (g)			143	137	2625	1221	-
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)				4.8	91.6	42.8	1.7
SIGMA (D_p/F_{oo} in g/kN, or SN)				1.5	6.5	0.7	0.2
RANGE (D_p/F_{oo} in g/kN, or SN)				3.2 - 6.2	85.4 - 98.4	42.0 - 43.3	1.5 - 1.9

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.32 - 100.73
TEMPERATURE (K)	275 - 278
ABS HUMIDITY (kg/kg)	0.0024 - 0.0047

FUEL

SPEC	Jet A-1
H/C	1.86 - 1.87
AROM (%)	19.8 - 21.0

MANUFACTURER: Pratt & Whitney Canada Corp.
TEST ORGANIZATION: PW307 Development Engineering
TEST LOCATION: Mississauga, Ontario, Canada
TEST DATES: FROM 16 Feb 12 TO 23 Feb 12

REMARKS

1. P&WC ER 5606 revision B
2. Engines tested: CH0581/01, CH0582/01, CH0583/01
3. Weight reduced fuel nozzles and CCOC, aft shifted liner
4. Engines CH0581 onwards incorporate this combustion system design standard
5. Defined by P&WC Engineering Change E6298
6. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
7. NOx levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

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