



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW1127G1-JM BYPASS RATIO: 12.2  
 UNIQUE ID NUMBER: 15PW104 PRESSURE RATIO ( $\pi_{oo}$ ): 32.1  
 ENGINE TYPE: TF RATED OUTPUT ( $F_{oo}$ ) (kN): 120.4

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	0.3	34.1	31.2	1.8
AS % OF ORIGINAL LIMIT	1.5 %	28.9 %	29.9 %	8.0 %
AS % OF CAEP/2 LIMIT (NOx)			37.4 %	
AS % OF CAEP/4 LIMIT (NOx)			43.8 %	
AS % OF CAEP/6 LIMIT (NOx)			49.4 %	
AS % OF CAEP/8 LIMIT (NOx)			57.4 %	

### 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 <sub>oo</sub> )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	0.800	0.03	0.22	17.76	1.4
CLIMB OUT	85	2.2	0.661	0.03	0.32	14.18	0.3
APPROACH	30	4.0	0.232	0.04	5.49	8.85	0.36
IDLE	7	26.0	0.090	0.11	21.47	6.55	0.56
LTO TOTAL FUEL (kg) or EMISSIONS (g)			317	21	3348	3244	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>oo</sub> (g/kN) or AVERAGE SN (MAX)				0.2	27.8	26.9	1.4
SIGMA (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)				-	-	-	-
RANGE (D <sub>p</sub> /F <sub>oo</sub> 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)	99.56 - 101.71
TEMPERATURE (K)	265.6 - 278.15
AHS HUMIDITY (kg/kg)	0.00071 - 0.00203

### FUEL

SPEC	Jet-A
H/C	1.86
AROM (%)	15.1 - 16.6

MANUFACTURER: Pratt & Whitney  
 TEST ORGANIZATION: Pratt & Whitney  
 TEST LOCATION: X8 Test Stand, East Hartford, CT  
 TEST DATES: FROM 11 Mar 14 TO 14 Mar 14

### REMARKS

1. Data from Certification Report PWA-9968
2. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
3. 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)