



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW1133G1-JM  
UNIQUE ID NUMBER: 15PW107  
ENGINE TYPE: TF

BYPASS RATIO: 11.4  
PRESSURE RATIO ( $\pi_{00}$ ): 38.9  
RATED OUTPUT ( $F_{00}$ ) (kN): 147.3

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{00}$ (g/kN) or SN	0.2	25.2	38.3	5.7
AS % OF ORIGINAL LIMIT	1.0 %	21.4 %	32.5 %	26.8 %
AS % OF CAEP/2 LIMIT (NOx)			40.7 %	
AS % OF CAEP/4 LIMIT (NOx)			45.2 %	
AS % OF CAEP/6 LIMIT (NOx)			50.0 %	
AS % OF CAEP/8 LIMIT (NOx)			56.5 %	

### 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 (% $F_{00}$ )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
TAKE-OFF	100	0.7	1.023	0.03	0.14	25.23	4.4
CLIMB OUT	85	2.2	0.839	0.03	0.2	18.92	2.01
APPROACH	30	4.0	0.278	0.04	3.59	9.14	0.34
IDLE	7	26.0	0.099	0.05	17.89	6.98	0.54
LTO TOTAL FUEL (kg) or EMISSIONS (g)			375	16	3025	4864	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE $D_p/F_{00}$ (g/kN) or AVERAGE SN (MAX)				0.1	20.5	33	4.4
SIGMA ( $D_p/F_{00}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{00}$ 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
ABS 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)