



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW1521GA  
UNIQUE ID NUMBER: 20PW132  
ENGINE TYPE: TF

BYPASS RATIO: 11.4  
PRESSURE RATIO ( $\pi_{oo}$ ): 35.1  
RATED OUTPUT ( $F_{oo}$ ) (kN): 97.7

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	0.3	28.4	37.2	3.1
AS % OF ORIGINAL LIMIT	2.0 %	24.0 %	34.0 %	13.0 %
AS % OF CAEP/2 LIMIT (NOx)			42.0 %	
AS % OF CAEP/4 LIMIT (NOx)			48.0 %	
AS % OF CAEP/6 LIMIT (NOx)			54.0 %	
AS % OF CAEP/8 LIMIT (NOx)			62.0 %	

### 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)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	0.690	0	0	22.1	2.4
CLIMB OUT	85	2.2	0.580	0	0	18.1	1.5
APPROACH	30	4.0	0.210	0.1	2.5	10.1	0.8
IDLE	7	26.0	0.070	0.1	19.3	5.6	0.5
LTO TOTAL FUEL (kg) or EMISSIONS (g)			265	20	2260	3139	-
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)				0.2	23.1	32.1	2.4
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				0.2 - 0.3	22.9 - 23.4	31.8 - 32.3	2.1 - 2.8

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.97 - 103.29
TEMPERATURE (K)	272.0 - 278.1
ABS HUMIDITY (kg/kg)	0.00122 - 0.00221

### FUEL

SPEC	Jet-A
H/C	1.94
AROM (%)	17.8% - 18.4%

MANUFACTURER: Pratt & Whitney  
TEST ORGANIZATION: Pratt & Whitney  
TEST LOCATION: Mirabel Aerospace Centre - Quebec  
TEST DATES: FROM 25 Mar 18 TO 26 Mar 18

### REMARKS

1. Data from Certification Report PWA-11600
2. Block C combustor
3. Certification in accordance with Part III, Chapter 2, of Amendment 8 of ICAO Annex 16 Vol. II.
4. 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)