



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW1519G

UNIQUE ID NUMBER: 16PW113

ENGINE TYPE: TF

BYPASS RATIO: 11.6

PRESSURE RATIO ( $\pi_{oo}$ ): 32.3

RATED OUTPUT ( $F_{oo}$ ) (kN): 88.0

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D <sub>p</sub> /F <sub>oo</sub> (g/kN) or SN	0.4	22.2	32.7	4.0
AS % OF ORIGINAL LIMIT	2.0 %	18.8 %	31.3 %	16.3 %
AS % OF CAEP/2 LIMIT (NOx)			39.1 %	
AS % OF CAEP/4 LIMIT (NOx)			45.7 %	
AS % OF CAEP/6 LIMIT (NOx)			51.5 %	
AS % OF CAEP/8 LIMIT (NOx)			59.8 %	

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	0.620	0.1	0.1	20.2	2.7
CLIMB OUT	85	2.2	0.520	0.1	0	16.7	2.4
APPROACH	30	4.0	0.190	0.1	2.6	10.7	2.4
IDLE	7	26.0	0.070	0.2	16	5.3	2.5
LTO TOTAL FUEL (kg) or EMISSIONS (g)			250	36	1868	2739	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>oo</sub> (g/kN) or AVERAGE SN (MAX)				0.4	20.5	30.9	3.6
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)				0.2 - 0.5	19.9 - 21.2	29.8 - 31.6	1.7 - 4.4

ACCESSORY LOADS

POWER EXTRACTION0(kW)AT-POWER SETTINGS

STAGE BLEED0% CORE FLOWAT-POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99.22 - 101.35
TEMPERATURE (K)	259.5 - 282.0
ABS HUMIDITY (kg/kg)	0.00081 - 0.00317

FUEL

SPEC	Jet-A
H/C	1.9
AROM (%)	16.4% - 18.1%

MANUFACTURER: Pratt & Whitney

TEST ORGANIZATION: Pratt & Whitney

TEST LOCATION: Mirabel Aerospace Centre - Quebec

TEST DATES: FROM 15 Jan 16 TO 10 May 16

REMARKS

1. Data from Certification Report PWA-10061
2. Certification in accordance with Part III, Chapter 2, of Amendment 8 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)