



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4170  
UNIQUE ID NUMBER: 9PW095  
ENGINE TYPE: TF

BYPASS RATIO: 4.86  
PRESSURE RATIO ( $\pi_{oo}$ ): 33.8  
RATED OUTPUT ( $F_{oo}$ ) (kN): 311.4

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	1.7	23.2	57.8	7.5
AS % OF ORIGINAL LIMIT	8.6 %	19.7 %	53.7 %	43.1 %
AS % OF CAEP/2 LIMIT (NOx)			67.1 %	
AS % OF CAEP/4 LIMIT (NOx)			77.5 %	
AS % OF CAEP/6 LIMIT (NOx)			86.8 %	
AS % OF CAEP/8 LIMIT (NOx)			100.1 %	

### 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	3.019	0	0.18	31.4	5.6
CLIMB OUT	85	2.2	2.450	0	0.18	22.84	5.6
APPROACH	30	4.0	0.833	0.05	1.17	12.49	0.2
IDLE	7	26.0	0.255	0.83	14.04	4.18	0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1048	341	5896	15526	-
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)				1.1	18.9	49.9	5.8
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{oo}$ 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)	100.80-101.42
TEMPERATURE (K)	281.99-285.65
AHS HUMIDITY (kg/kg)	0.00362-0.00455

### FUEL

SPEC	Jet A
H/C	1.89
AROM (%)	17

MANUFACTURER: Pratt & Whitney  
TEST ORGANIZATION: Pratt & Whitney  
TEST LOCATION: East Hartford, CT  
TEST DATES: FROM 12 May 08 TO 13 May 08

### REMARKS

- Talon IIB combustor with improved exit temperature profile.
- Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
- NOx levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

If REVISED, this data supersedes databank UID  
Compliance with fuel venting requirements:

x ('x' if complies, PR if pre-regulation)