



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4152  
UNIQUE ID NUMBER: 1PW044  
COMBUSTOR:  
ENGINE TYPE: TF  
BYPASS RATIO: 4.9  
PRESSURE RATIO ( $\pi_{00}$ ): 26.9  
RATED THRUST ( $F_{00}$ ) (kN): 231.3

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	2.0	20.9	54.1	16.3
AS % OF ORIGINAL LIMIT	10.2	17.7	57.7	86.9
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			72.1	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			87.3	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			99.2	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			118.2	

### DATA STATUS

- PRE-REGULATION  
x CERTIFICATION  
- REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
- 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)

x OUT OF PRODUCTION (DATE: - )  
- OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
TAKE-OFF	100	0.7	2.177	0.13	0.12	26.90	12.7
CLIMB OUT	85	2.2	1.785	0.16	0.17	22.70	
APPROACH	30	4.0	0.593	0.15	1.09	11.10	
IDLE	7	26.0	0.177	0.74	12.76	4.90	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			745	275	3729	10741	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				1.3	17.0	46.7	12.7
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW)  
STAGE BLEED 0 (% CORE FLOW)

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.6
TEMPERATURE (K)	290
ABS HUMIDITY (kg/kg)	0.00053

### FUEL

SPEC	Jet A
H/C	1.87
AROM (%)	19.7

MANUFACTURER: Pratt & Whitney  
TEST ORGANIZATION: Pratt & Whitney  
TEST LOCATION: P7 Stand, P&W, Middletown, CT  
TEST DATES: 14/05/1986-14/05/1986

### REMARKS

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)