



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4084  
UNIQUE ID NUMBER: 8PW089  
ENGINE TYPE: TF

BYPASS RATIO: 6.4  
PRESSURE RATIO ( $\pi_{oo}$ ): 36.2  
RATED OUTPUT ( $F_{oo}$ ) (kN): 369.6

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	4.5	23.9	72.8	13.5
AS % OF ORIGINAL LIMIT	23.0 %	20.3 %	64.8 %	81.6 %
AS % OF CAEP/2 LIMIT (NOx)			81.0 %	
AS % OF CAEP/4 LIMIT (NOx)			91.7 %	
AS % OF CAEP/6 LIMIT (NOx)			102.0 %	
AS % OF CAEP/8 LIMIT (NOx)			116.4 %	

### 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	3.411	0.1	0.1	45	10.5
CLIMB OUT	85	2.2	2.689	0.1	0.1	35.5	4.8
APPROACH	30	4.0	0.875	0.2	0.4	12	0.8
IDLE	7	26.0	0.242	2.7	18.73	4.4	0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1086	1111	7205	23229	-
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)				2.9	19.5	62.8	10.5
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)	101.3
TEMPERATURE (K)	288
ABS HUMIDITY (kg/kg)	0.0063

### FUEL

SPEC	Jet A
H/C	1.92
AROM (%)	20.3

MANUFACTURER: Pratt and Whitney  
TEST ORGANIZATION: Pratt and Whitney  
TEST LOCATION: East Hartford, Ct, USA  
TEST DATES: FROM 26 Apr 94 TO 02 May 94

### REMARKS

1. Data from X832-4
2.  $D_p/F_{oo}$  CO (char) wrongly entered originally as 23.0 [2PW062].
3. Corrected in version 15 to 23.9 and % of standard recalculated

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

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