



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4460  
UNIQUE ID NUMBER: 1PW052  
ENGINE TYPE: TF

BYPASS RATIO: 4.5  
PRESSURE RATIO ( $\pi_{oo}$ ): 32.4  
RATED OUTPUT ( $F_{oo}$ ) (kN): 266.9

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	3.4	33.3	61.1	10.7
AS % OF ORIGINAL LIMIT	17.3 %	28.2 %	58.3 %	59.1 %
AS % OF CAEP/2 LIMIT (NOx)			72.9 %	
AS % OF CAEP/4 LIMIT (NOx)			86.2 %	
AS % OF CAEP/6 LIMIT (NOx)			95.8 %	
AS % OF CAEP/8 LIMIT (NOx)			111.3 %	

### 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

### 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	2.647	0.1	0.37	32.8	8.3
CLIMB OUT	85	2.2	2.085	0.03	0.51	24.7	-
APPROACH	30	4.0	0.703	0.14	1.78	12	-
IDLE	7	26.0	0.213	1.66	20.32	4.9	-
LTO TOTAL FUEL (kg) or EMISSIONS (g)			887	595	7234	14097	-
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)				2.2	27.1	52.7	8.3
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)	100.2
TEMPERATURE (K)	299
ABS HUMIDITY (kg/kg)	0.01

### FUEL

SPEC	Jet A
H/C	1.88
AROM (%)	19.7

MANUFACTURER: Pratt & Whitney  
TEST ORGANIZATION: -  
TEST LOCATION: -  
TEST DATES: FROM 17 Aug 87 TO 23 Aug 87

### REMARKS

Data from X698-5 with reduced smoke combustor.

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

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