



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW1217G BYPASS RATIO: 8.3  
UNIQUE ID NUMBER: 21PW140 PRESSURE RATIO ( $\pi_{oo}$ ): 32.7  
ENGINE TYPE: TF RATED OUTPUT ( $F_{oo}$ ) (kN): 75.7

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	0.1	27.2	44.3	4.8
AS % OF ORIGINAL LIMIT	0.5 %	23 %	42 %	19 %
AS % OF CAEP/2 LIMIT (NOx)			53 %	
AS % OF CAEP/4 LIMIT (NOx)			59 %	
AS % OF CAEP/6 LIMIT (NOx)			65 %	
AS % OF CAEP/8 LIMIT (NOx)			73 %	

### 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	0.634	0.04	0.3	25.3	3.7
CLIMB OUT	85	2.2	0.524	0.02	0.4	18.6	2.7
APPROACH	30	4.0	0.184	0.01	2.5	8.6	0.4
IDLE	7	26.0	0.069	0.01	14.2	5.1	0.4
LTO TOTAL FUEL (kg) or EMISSIONS (g)			248	5	1678	2891	-
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)				0.06	22.2	38.2	3.7
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				0.05 - 0.0	20.8 - 23.2	37.8 - 38.4	3.4 - 4.0

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
STAGE BLEED 0 % CORE FLOW AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.15 - 102.25
TEMPERATURE (K)	276.5 - 293.2
ABS HUMIDITY (kg/kg)	0.00108 - 0.00576

### FUEL

SPEC	Jet A
H/C	1.9
AROM (%)	18.0 - 18.7

MANUFACTURER: Pratt & Whitney  
TEST ORGANIZATION: Pratt & Whitney  
TEST LOCATION: East Hartford, CT  
TEST DATES: FROM 28 Mar 19 TO 01 Apr 19

### REMARKS

1. Block C Combustor

If REVISED, this data supersedes databank UID  
Compliance with fuel venting requirements: x ('x' if complies, PR if pre-regulation)