



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4152
UNIQUE ID NUMBER: 1PW044
ENGINE TYPE: TF

BYPASS RATIO: 4.9
PRESSURE RATIO (π_{oo}): 26.9
RATED OUTPUT (F_{oo}) (kN): 231.3

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (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 (NOx)			72.1 %	
AS % OF CAEP/4 LIMIT (NOx)			87.3 %	
AS % OF CAEP/6 LIMIT (NOx)			99.2 %	
AS % OF CAEP/8 LIMIT (NOx)			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

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	2.177	0.13	0.12	26.9	12.7
CLIMB OUT	85	2.2	1.785	0.16	0.17	22.7	-
APPROACH	30	4.0	0.593	0.15	1.09	11.1	-
IDLE	7	26.0	0.177	0.74	12.76	4.9	-
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_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				1.3	17	46.7	12.7
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)	101.63
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: FROM 14 May 86 TO 14 May 86

REMARKS

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

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