



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4x60
UNIQUE ID NUMBER: 1PW057
ENGINE TYPE: TF

BYPASS RATIO: 4.7
PRESSURE RATIO (π_{00}): 30.68
RATED OUTPUT (F_{00}) (kN): 266.9

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	7.7	42.6	63.1	12.4
AS % OF ORIGINAL LIMIT	39.3 %	36.1 %	62.2 %	68.3 %
AS % OF CAEP/2 LIMIT (NOx)			77.8 %	
AS % OF CAEP/4 LIMIT (NOx)			92.2 %	
AS % OF CAEP/6 LIMIT (NOx)			104.5 %	
AS % OF CAEP/8 LIMIT (NOx)			122.6 %	

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_{00})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	2.623	0.08	0.4	34.89	9.6
CLIMB OUT	85	2.2	2.075	0.08	0.52	26.34	6.8
APPROACH	30	4.0	0.686	0.15	1.74	12.53	0.7
IDLE	7	26.0	0.218	3.73	25.83	4.07	0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			889	1324	9257	14505	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D_p/F_{00} (g/kN) or AVERAGE SN (MAX)				5	34.7	54.4	9.6
SIGMA (D_p/F_{00} in g/kN, or SN)				-	-	-	-
RANGE (D_p/F_{00} 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)	102
TEMPERATURE (K)	270
ABS HUMIDITY (kg/kg)	0.0015

FUEL

SPEC	Jet A
H/C	1.91
AROM (%)	21

MANUFACTURER: Pratt & Whitney
TEST ORGANIZATION: Pratt & Whitney
TEST LOCATION: Middletown, CT
TEST DATES: FROM 15 Jan 93 TO 19 Jan 93

REMARKS

1. Data from X693-20 with Phase 3 reduced pressure loss combustor
2. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
3. NOx levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

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

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