



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4x56
UNIQUE ID NUMBER: 1PW055
ENGINE TYPE: TF

BYPASS RATIO: 4.8
PRESSURE RATIO (π_{00}): 28.37
RATED OUTPUT (F_{00}) (kN): 249.1

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	9.9	50.3	57.0	10.9
AS % OF ORIGINAL LIMIT	50.3 %	42.6 %	59.0 %	59.4 %
AS % OF CAEP/2 LIMIT (NOx)			73.7 %	
AS % OF CAEP/4 LIMIT (NOx)			88.6 %	
AS % OF CAEP/6 LIMIT (NOx)			100.6 %	
AS % OF CAEP/8 LIMIT (NOx)			119.2 %	

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	2.351	0.08	0.48	30.44	8.5
CLIMB OUT	85	2.2	1.912	0.09	0.56	24.24	5.8
APPROACH	30	4.0	0.643	0.16	1.89	11.97	0.6
IDLE	7	26.0	0.208	4.75	29.96	3.93	0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			830	1597	10202	12246	-
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)				6.4	41	49.2	8.5
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

Data from X693-20 with Phase 3 reduced pressure loss combustor

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

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