ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4x50
UNIQUE ID NUMBER: 1PW053
ENGINE TYPE: TF

BYPASS RATIO: 5
PRESSURE RATIO (π_{oo}): 25.39
RATED OUTPUT (F_{oo}) (kN): 222.4

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	14.6	64.1	50.4	8.8
AS % OF ORIGINAL LIMIT	74.6 %	54.3 %	55.5 %	46.0 %
AS % OF CAEP/2 LIMIT (NOx)			69.4 %	
AS % OF CAEP/4 LIMIT (NOx)			84.6 %	
AS % OF CAEP/6 LIMIT (NOx)			96.1 %	
AS % OF CAEP/8 LIMIT (NOx)			115.5 %	

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)

- 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) HC	CO	NOx	SMOKE NUMBER
TAKE-OFF	100	0.7	2.027	0.09	0.53	25.69	6.8
CLIMB OUT	85	2.2	1.683	0.1	0.62	21.77	-
APPROACH	30	4.0	0.579	0.19	2.33	11.13	-
IDLE	7	26.0	0.193	6.8	36.91	3.69	-
LTO TOTAL FUEL (kg) or EMISSIONS (g)			747	2104	11619	9681	-
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)				9.5	52.2	43.5	6.8
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)	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)