ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4x52
UNIQUE ID NUMBER: 1PW054
ENGINE TYPE: TF

BYPASS RATIO: 5
PRESSURE RATIO (π_{oo}): 26.32
RATED OUTPUT (F_{oo}) (kN): 231.3

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	12.8	59.2	52.4	9.4
AS % OF ORIGINAL LIMIT	65.2 %	50.1 %	56.6 %	50.0 %
AS % OF CAEP/2 LIMIT (NOx)			70.7 %	
AS % OF CAEP/4 LIMIT (NOx)			85.7 %	
AS % OF CAEP/6 LIMIT (NOx)			97.4 %	
AS % OF CAEP/8 LIMIT (NOx)			116.6 %	

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_{oo})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg) HC	CO	NOx	SMOKE NUMBER
TAKE-OFF	100	0.7	2.127	0.08	0.52	27.02	7.3
CLIMB OUT	85	2.2	1.757	0.1	0.6	22.54	4.9
APPROACH	30	4.0	0.600	0.17	2.15	11.41	0.5
IDLE	7	26.0	0.198	6.02	34.54	3.77	0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			774	1914	11164	10449	-
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)				8.3	48.2	45.2	7.3
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)