ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION:	PW4056		BYPASS RATIO:	4.7
UNIQUE ID NUMBER:	1PW042		PRESSURE RATIO (π_{oo}):	29.3
COMBUSTOR:	Reduced smoke			
ENGINE TYPE:	TF		RATED THRUST (F_{oo}) (kN):	249.1

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO$_X$	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	4.0	37.4	55.8	10.0
AS % OF ORIGINAL LIMIT	20.4	31.7	56.5	54.5
AS % OF CAEP/2 LIMIT (NO$_X$)			70.7	
AS % OF CAEP/4 LIMIT (NO$_X$)			84.6	
AS % OF CAEP/6 LIMIT (NO$_X$)			96.2	
AS % OF CAEP/8 LIMIT (NO$_X$)			113.6	

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   (DATE: -   )

MEASURED DATA

MODE	POWER SETTING (%F$_{oo}$)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO$_X$	
TAKE-OFF	100	0.7	2.342	0.06	0.44	28.10	7.8
CLIMB OUT	85	2.2	1.930	0.01	0.57	22.90	
APPROACH	30	4.0	0.658	0.13	2.00	11.60	
IDLE	7	26.0	0.208	1.92	21.86	4.80	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			836	652	7597	11987	–
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)				2.6	30.5	48.1	7.8
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)	100.2
TEMPERATURE (K)	299
ABS HUMIDITY (kg/kg)	0.01

FUEL

SPEC	Jet A
H/C	1.88
AROM (%)	19.7

MANUFACTURER:	Pratt & Whitney
TEST ORGANIZATION:	Pratt & Whitney
TEST LOCATION:	
TEST DATES:	17/08/1987-23/08/1987

REMARKS

     1. Data from X698-5 with reduced smoke combustor.

Compliance with Fuel Venting requirements: -   ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)