ICAO ENGINE EXHAUST EMISSIONS DATA BANK



SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW1521G BYPASS RATIO: 11.4 PRESSURE RATIO $(\pi_{\circ\circ})$: 16PW112 UNIQUE ID NUMBER: 35.1 ENGINE TYPE: TF RATED OUTPUT $(F_{\circ\circ})$ (kN): 97.7

REGULATORY DATA

CHARACTERISTIC VALUE:	НС	СО	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	0.4	19.0	35.1	4.0
AS % OF ORIGINAL LIMIT	2.0 %	16.1 %	31.8 %	16.8 %
AS % OF CAEP/2 LIMIT (NOx)			39.8 %	
AS % OF CAEP/4 LIMIT (NOx)			45.5 %	
AS % OF CAEP/6 LIMIT (NOx)			50.8 %	
AS % OF CAEP/8 LIMIT (NOx)			58.2 %	

DATA STATUS

TEST ENGINE STATUS

PRE-REGULATION NEWLY MANUFACTURED ENGINES

CERTIFICATION DEDICATED ENGINES TO PRODUCTION STANDARD X X

REVISED (SEE REMARKS) OTHER (SEE REMARKS)

EMISSIONS STATUS

CURRENT ENGINE STATUS

<u>FUEL</u>

DATA CORRECTED TO REFERENCE (IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)

(ANNEX 16 VOLUME II) - OUT OF PRODUCTION OUT OF SERVICE

MEASURED DATA

	POWER	TIME	FUEL FLOW	JEL FLOW EMISSIONS INDICES (g/kg)		(g/kg)	
MODE	SETTING	minutes	kg/s	HC	CO	NOx	SMOKE NUMBER
	(%F ₀₀)						
TAKE-OFF	100	0.7	0.690	0.1	0.1	23.2	3
CLIMB OUT	85	2.2	0.580	0.1	0.1	18.5	2.57
APPROACH	30	4.0	0.210	0.1	2.1	10.9	2.5
IDLE	7	26.0	0.070	0.1	14.6	5.6	2.52
LTO TOTAL FUEL (kg) or EMISSIONS (g) 265			27	1711	3250	-	
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS			3	3	3	3	
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)			0.3	17.6	33.1	3.6	
SIGMA $(D_p/F_{oo} \text{ in } g/kN, \text{ or } SN)$			_			_	
RANGE $(D_p/F_{oo} \text{ in } g/kN, \text{ or } SN)$			0.2 - 0.5	17.1 - 18.1	32.0 - 33.9	1.7 - 4.9	

ACCESSORY LOADS

POWER EXTRACTION 0
STAGE BLEED 0 (kW) POWER SETTINGS AT % CORE FLOW POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99.22 - 101.35
TEMPERATURE (K)	259.5 - 282.0
ABS HUMIDITY (kg/kg)	0.00081 - 0.00317

SPEC	Jet-A
H/C	1.9
AROM (%)	16.4% - 18.1%

MANUFACTURER: Pratt & Whitney
TEST ORGANIZATION: Pratt & Whitney
TEST LOCATION: Mirabel Aerospace Centre - Quebec

FROM 15 Jan 16 TEST DATES: TO 10 May 16

<u>REMARKS</u>

1. Data from Certification Report PWA-10061

2. Certification in accordance with Part III, Chapter 2, of Amendment 8 of ICAO Annex 16 Vol. II.

3. NOx levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

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

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