



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

** DATA SUPERSEDED ** SEE SHEET: 4PW073

ENGINE IDENTIFICATION: PW2040 BYPASS RATIO: -
 UNIQUE ID NUMBER: 1PW040 PRESSURE RATIO (π_{∞}): 27.94
 ENGINE TYPE: TF RATED OUTPUT (F_{∞}) (kN): 181.76

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{∞} (g/kN) or SN	5.1	43.2	63.9	15.2
AS % OF ORIGINAL LIMIT	25.9 %	36.6 %	66.6 %	75.6 %
AS % OF CAEP/2 LIMIT (NOx)			83.3 %	
AS % OF CAEP/4 LIMIT (NOx)			100.3 %	
AS % OF CAEP/6 LIMIT (NOx)			113.9 %	
AS % OF CAEP/8 LIMIT (NOx)			135.3 %	

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

MEASURED DATA

MODE	POWER SETTING (% F_{∞})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	1.761	0.026	0.4	34.3	-
CLIMB OUT	85	2.2	1.448	0.035	0.4	27.3	-
APPROACH	30	4.0	0.493	0.18	2	10.6	-
IDLE	7	26.0	0.155	2.25	25.1	4.2	-
LTO TOTAL FUEL (kg) or EMISSIONS (g)		625	574	6412	10025		-
NUMBER OF ENGINES			1	1	1	1	1
NUMBER OF TESTS			3	3	3	3	3
AVERAGE D_p/F_{∞} (g/kN) or AVERAGE SN (MAX)			3.3	35.2	55.1	11.8	
SIGMA (D_p/F_{∞} in g/kN, or SN)			-	-	-	-	-
RANGE (D_p/F_{∞} in g/kN, or SN)			-	-	-	-	-

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.94
TEMPERATURE (K)	298
ABS HUMIDITY (kg/kg)	-

FUEL

SPEC	Jet A
H/C	-
AROM (%)	-

MANUFACTURER: Pratt & Whitney
 TEST ORGANIZATION: -
 TEST LOCATION: -
 TEST DATES: FROM 08 Aug 83 TO 10 Aug 83

REMARKS

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

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