



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent XWB-84
 UNIQUE ID NUMBER: 14RR075
 ENGINE TYPE: (TF)

BYPASS RATIO: 9.0
 PRESSURE RATIO (π_{oo}): 41.1
 RATED OUTPUT (F_{oo}) (kN): 379.0

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	1.5	29.3	58.7	11.6
AS % OF ORIGINAL LIMIT	7.4 %	24.9 %	48.1 %	70.9 %
AS % OF CAEP/2 LIMIT (NOx)			60.1 %	
AS % OF CAEP/4 LIMIT (NOx)			65.9 %	
AS % OF CAEP/6 LIMIT (NOx)			72.4 %	
AS % OF CAEP/8 LIMIT (NOx)			81.2 %	

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	TIME	FUEL FLOW	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
	(%F _{oo})	minutes	kg/s	HC	CO	NOx	
TAKE-OFF	100	0.7	2.819	0	0.39	45.48	5.8
CLIMB OUT	85	2.2	2.306	0	0.39	34.53	6.4
APPROACH	30	4.0	0.801	0	1.2	11.46	6.6
IDLE	7	26.0	0.291	0.94	20.66	4.73	1.2
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1069	424	9760	20243	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				1.12	25.75	53.41	9.93
SIGMA (D _p /F _{oo} in g/kN, or SN)				0.02	2.34	0.32	3.004
RANGE (D _p /F _{oo} in g/kN, or SN)				1.11 - 1.13	24.1 - 27.4	53.18 - 53.64	7.8 - 12.1

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.5 - 101.3
TEMPERATURE (K)	280 - 295
AHS HUMIDITY (kg/kg)	0.00248 - 0.00964

FUEL

SPEC	-
H/C	1.86
AROM (%)	17.3

MANUFACTURER: Rolls-Royce
 TEST ORGANIZATION: Rolls-Royce
 TEST LOCATION: Derby
 TEST DATES: FROM Apr 12 TO Jul 14

REMARKS

1. Data from Certification Report DNS197360 Iss 2
2. Certification in accordance with Part III, Chapter 2, of Amendment 7 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' if complies, PR if pre-regulation)