



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent XWB-79B
UNIQUE ID NUMBER: 14RR074
ENGINE TYPE: (TF)

BYPASS RATIO: 9.2
PRESSURE RATIO (π_{00}): 38.8
RATED OUTPUT (F_{00}) (kN): 355.2

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	1.8	32.8	53.1	11.6
AS % OF ORIGINAL LIMIT	9.1 %	27.8 %	45.2 %	69.6 %
AS % OF CAEP/2 LIMIT (NOx)			56.4 %	
AS % OF CAEP/4 LIMIT (NOx)			62.8 %	
AS % OF CAEP/6 LIMIT (NOx)			69.4 %	
AS % OF CAEP/8 LIMIT (NOx)			78.4 %	

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_{00})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	2.601	0	0.37	40.55	6
CLIMB OUT	85	2.2	2.129	0	0.42	31.15	6.9
APPROACH	30	4.0	0.755	0	1.36	10.95	6.1
IDLE	7	26.0	0.280	1.11	22.51	4.55	1.3
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1008	486	10227	17154	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D_p/F_{00} (g/kN) or AVERAGE SN (MAX)				1.37	28.8	48.3	9.93
SIGMA (D_p/F_{00} in g/kN, or SN)				0.04	2.37	0.7	3.004
RANGE (D_p/F_{00} in g/kN, or SN)				1.34 - 1.4	27.12 - 30.48	47.8 - 48.8	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)