



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent XWB-97 BYPASS RATIO: 8.0
UNIQUE ID NUMBER: 18RR080 PRESSURE RATIO (π_{00}): 48.6
ENGINE TYPE: (TF) RATED OUTPUT (F_{00}) (kN): 436.7

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	1.6	28.4	75.5	14.3
AS % OF ORIGINAL LIMIT	8.1 %	24.1 %	55.1 %	90.7 %
AS % OF CAEP/2 LIMIT (NOx)			68.8 %	
AS % OF CAEP/4 LIMIT (NOx)			72.5 %	
AS % OF CAEP/6 LIMIT (NOx)			78.6 %	
AS % OF CAEP/8 LIMIT (NOx)			86.5 %	

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)
x OUT OF PRODUCTION (DATE: 31-Jul-20)
- 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	3.507	0	0.5	56.91	10.7
CLIMB OUT	85	2.2	2.805	0	0.67	40.17	8.7
APPROACH	30	4.0	0.907	0	0.53	12.69	6.3
IDLE	7	26.0	0.325	0.89	19.09	4.81	1.3
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1242	451	10117	28456	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D_p/F_{00} (g/kN) or AVERAGE SN (MAX)				1.03	23.17	65.16	11.1
SIGMA (D_p/F_{00} in g/kN, or SN)				0.06	0.48	0.16	0.3
RANGE (D_p/F_{00} in g/kN, or SN)				0.97 - 1.03	22.72 - 23.67	65.03 - 65.34	10.8 - 11.4

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99.6 - 101.5
TEMPERATURE (K)	277.8 - 284.9
ABS HUMIDITY (kg/kg)	0.00258 - 0.00494

FUEL

SPEC	-
H/C	1.91
AROM (%)	17.65

MANUFACTURER: Rolls-Royce
TEST ORGANIZATION: Rolls-Royce
TEST LOCATION: Derby
TEST DATES: FROM 15 Apr 16 TO 18 Apr 16

REMARKS

1. Data from Certification Report EDNS01000420230 Iss 1
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)