



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION:

Trent XWB-79

UNIQUE ID NUMBER:

18RR078

ENGINE TYPE:

(TF)

BYPASS RATIO:

9.2

PRESSURE RATIO (π_{oo}):

38.8

RATED OUTPUT (F_{oo}) (kN):

355.2

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	1.8	32.3	50.2	11.3
AS % OF ORIGINAL LIMIT	8.9 %	27.3 %	42.7 %	67.4 %
AS % OF CAEP/2 LIMIT (NOx)			53.4 %	
AS % OF CAEP/4 LIMIT (NOx)			59.3 %	
AS % OF CAEP/6 LIMIT (NOx)			65.6 %	
AS % OF CAEP/8 LIMIT (NOx)			74.1 %	

DATA STATUS

-PRE-REGULATION

xCERTIFICATION

xREVISED (SEE REMARKS)

TEST ENGINE STATUS

-NEWLY MANUFACTURED ENGINES

xDEDICATED ENGINES TO PRODUCTION STANDARD

-OTHER (SEE REMARKS)

EMISSIONS STATUS

xDATA 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_{oo})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	2.601	0	0.39	40.2	5.8
CLIMB OUT	85	2.2	2.129	0	0.4	30.88	7
APPROACH	30	4.0	0.755	0.01	1.36	10.59	6.5
IDLE	7	26.0	0.280	1.22	23.37	4.23	1.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1008	534	10597	16834	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				6	6	6	6
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				1.5	29.84	47.4	10.3
SIGMA (D_p/F_{oo} in g/kN, or SN)				0.23	2.46	1.64	2.2
RANGE (D_p/F_{oo} in g/kN, or SN)				1.34 - 1.7	27.12 - 31.92	45.6 - 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 - 101.9
TEMPERATURE (K)	280 - 295
ABS HUMIDITY (kg/kg)	0.00062 - 0.00964

FUEL

SPEC	-
H/C	1.87
AROM (%)	17.25

MANUFACTURER:

Rolls-Royce

TEST ORGANIZATION:

Rolls-Royce

TEST LOCATION:

Derby

TEST DATES:

FROM

Apr 12

TO

Apr 16

REMARKS

1. Data from Certification Report EDNS01000588237 Iss 2
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)