



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent XWB-79EP
UNIQUE ID NUMBER: 07P27RR152
COMBUSTOR: Phase5 Tiled
ENGINE TYPE: TF

BYPASS RATIO: 8.9
PRESSURE RATIO (π_{00}): 41.5
RATED THRUST (F_{00}) (kN): 355.2

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	1.5	27.5	52.7	11.3
AS % OF ORIGINAL LIMIT	7.5	23.3	42.8	67.6
AS % OF CAEP/2 LIMIT (NO _x)			53.5	
AS % OF CAEP/4 LIMIT (NO _x)			58.5	
AS % OF CAEP/6 LIMIT (NO _x)			64.3	
AS % OF CAEP/8 LIMIT (NO _x)			72.0	

For non-volatile particulate matter (nvPM) emissions, please refer to the ICAO Engine nvPM Emissions Data Sheet.

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 (DATE: -)
- OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.564	0.00	0.33	43.93	5.8
CLIMB OUT	85	2.2	2.089	0.00	0.40	34.24	7.5
APPROACH	30	4.0	0.722	0.00	1.13	11.58	6.9
IDLE	7	26.0	0.243	1.20	23.25	4.30	1.7
LTO TOTAL FUEL (kg) or EMISSIONS (g)			935	456	9136	17806	-
NUMBER OF ENGINES				4	4	4	4
NUMBER OF TESTS				6	6	6	6
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				1.3	25.7	50.1	10.4
SIGMA (D _p /F ₀₀ in g/kN, or SN)				0.4	2.1	0.9	2.1
RANGE (D _p /F ₀₀ in g/kN, or SN)				0.76-1.55	23.15-27.82	49.21-50.91	7.4-11.9

ACCESSORY LOADS

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

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.5-102.2
TEMPERATURE (K)	280-295
ABS HUMIDITY (kg/kg)	0.00248-0.00964

FUEL

SPEC	
H/C	1.92
AROM (%)	16.7

MANUFACTURER: Rolls-Royce plc
TEST ORGANIZATION: Rolls-Royce
TEST LOCATION: Derby
TEST DATES: 01/04/2012-30/03/2021

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

REMARKS

- Certification report EDNS01000778911 Iss 1
- NO_x levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

Compliance with Fuel Venting requirements:

x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)