



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent 970-84
UNIQUE ID NUMBER: 8RR046
COMBUSTOR: Phase5 Tiled
ENGINE TYPE: TF

BYPASS RATIO: 7.5
PRESSURE RATIO (π_{00}): 39.0
RATED THRUST (F_{00}) (kN): 334.7

REGULATORY DATA

**** DATA SUPERSEDED ****

SEE FOLLOWING UID FOR REVISED DATA:

18RR081

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	0.4	23.6	57.4	6.8
AS % OF ORIGINAL LIMIT	1.9	20.0	48.7	39.6
AS % OF CAEP/2 LIMIT (NO _x)			60.8	
AS % OF CAEP/4 LIMIT (NO _x)			67.6	
AS % OF CAEP/6 LIMIT (NO _x)			74.6	
AS % OF CAEP/8 LIMIT (NO _x)			84.3	

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)	HC	CO	NO _x	SMOKE NUMBER
TAKE-OFF	100	0.7	2.600	0.00	0.40	37.20	4.1
CLIMB OUT	85	2.2	2.200	0.00	0.20	29.10	4.7
APPROACH	30	4.0	0.700	0.00	1.40	11.40	2.6
IDLE	7	26.0	0.300	0.20	15.10	5.10	0.7
LTO TOTAL FUEL (kg) or EMISSIONS (g)			980	81	6461	16555	-
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)				0.2	19.3	49.5	5.2
SIGMA (D _p /F ₀₀ in g/kN, or SN)				0.1	0.1	0.8	1.2
RANGE (D _p /F ₀₀ in g/kN, or SN)				0.2-0.3	19-19.2	49-50.5	4.1-6.5

ACCESSORY LOADS

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

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.4
TEMPERATURE (K)	291-291.6
ABS HUMIDITY (kg/kg)	0.00517-0.00578

FUEL

SPEC	
H/C	1.9
AROM (%)	18.6

MANUFACTURER: Rolls-Royce plc
TEST ORGANIZATION: Rolls-Royce
TEST LOCATION: Derby
TEST DATES: 18/03/2006-18/03/2006

NO_x REGULATION PARAGRAPH

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

REMARKS

1. Data from report DNS 109444
2. Certification in accordance with Part III, Chapter 2, of Amendment 6 of ICAO Annex 16 Vol. II.
3. NO_x levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements:

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