



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent 768  
UNIQUE ID NUMBER: 2RR022  
ENGINE TYPE: MTF

BYPASS RATIO: 5.15  
PRESSURE RATIO ( $\pi_{00}$ ): 34.04  
RATED OUTPUT ( $F_{00}$ ) (kN): 298.7

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{00}$ (g/kN) or SN	3.9	18.5	72.5	1.6
AS % OF ORIGINAL LIMIT	19.8 %	15.7 %	67.1 %	9.2 %
AS % OF CAEP/2 LIMIT (NOx)			83.8 %	
AS % OF CAEP/4 LIMIT (NOx)			96.5 %	
AS % OF CAEP/6 LIMIT (NOx)			108.1 %	
AS % OF CAEP/8 LIMIT (NOx)			124.6 %	

### DATA STATUS

- PRE-REGULATION  
x CERTIFICATION  
- REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
- 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: - )  
x 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	NOx	
TAKE-OFF	100	0.7	2.940	0.25	0.18	39.11	-
CLIMB OUT	85	2.2	2.420	0.38	0.13	30.01	-
APPROACH	30	4.0	0.800	0.84	0.86	10.34	-
IDLE	7	26.0	0.260	1.08	10.52	5.6	-
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1041	752	4496	18672	-
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)				2.52	15.1	62.52	1.26
SIGMA ( $D_p/F_{00}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{00}$ in g/kN, or SN)				1.53 - 3.52	13.83-15.92	62.1 - 62.8	1.1 - 1.5

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.6
TEMPERATURE (K)	293
ABS HUMIDITY (kg/kg)	.0073 - .0084

### FUEL

SPEC	AVTUR
H/C	1.94
AROM (%)	16

MANUFACTURER: Rolls Royce plc  
TEST ORGANIZATION: Rolls Royce plc  
TEST LOCATION: SINFIN, Derby  
TEST DATES: FROM Jul 94 TO -

### REMARKS

1. Data from certification report DNS 12859.
2. For SN by mode data use 3RR029 data

If REVISED, this data supersedes databank UID  
Compliance with fuel venting requirements:

0 ('x' if complies, PR if pre-regulation)