



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent 768  
UNIQUE ID NUMBER: 3RR029  
ENGINE TYPE: MTF

BYPASS RATIO: 5.15  
PRESSURE RATIO ( $\pi_{00}$ ): 34  
RATED OUTPUT ( $F_{00}$ ) (kN): 300.3

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{00}$ (g/kN) or SN	4.2	36.5	60.5	2.6
AS % OF ORIGINAL LIMIT	21.4 %	30.9 %	56.0 %	14.8 %
AS % OF CAEP/2 LIMIT (NOx)			70.0 %	
AS % OF CAEP/4 LIMIT (NOx)			80.7 %	
AS % OF CAEP/6 LIMIT (NOx)			90.4 %	
AS % OF CAEP/8 LIMIT (NOx)			104.1 %	

### 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  
- 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	2.970	0	0.18	31.25	1.9
CLIMB OUT	85	2.2	2.430	0.01	0.15	24.66	2
APPROACH	30	4.0	0.810	0.01	1.02	10.01	0.7
IDLE	7	26.0	0.270	1.89	20.22	4.52	0.2
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1061	801	8786	15658	-
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)				2.7	29.7	52.2	2
SIGMA ( $D_p/F_{00}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{00}$ in g/kN, or SN)				2.29-3.13	27.6-31.4	51.0-53.1	1.6-2.5

### ACCESSORY LOADS

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

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.2
TEMPERATURE (K)	287
ABS HUMIDITY (kg/kg)	.0053-.0089

### FUEL

SPEC	AVTUR
H/C	1.95
AROM (%)	16

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

### REMARKS

1. Data from certification report DNS 19234.
2. Improved traverse combustor.

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

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