



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent 772  
UNIQUE ID NUMBER: 14RR071  
ENGINE TYPE: MTF

BYPASS RATIO: 5.0  
PRESSURE RATIO ( $\pi_{oo}$ ): 36.3  
RATED OUTPUT ( $F_{oo}$ ) (kN): 320.3

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	3.8	35.8	58.4	2.1
AS % OF ORIGINAL LIMIT	19.5 %	30.4 %	51.9 %	12.4 %
AS % OF CAEP/2 LIMIT (NOx)			64.8 %	
AS % OF CAEP/4 LIMIT (NOx)			73.4 %	
AS % OF CAEP/6 LIMIT (NOx)			81.6 %	
AS % OF CAEP/8 LIMIT (NOx)			93.1 %	

### DATA STATUS

- PRE-REGULATION  
x CERTIFICATION  
x 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 (% $F_{oo}$ )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	3.139	0.01	0.21	35.56	1.4
CLIMB OUT	85	2.2	2.530	0.01	0.49	26.82	1.8
APPROACH	30	4.0	0.821	0.04	1.56	10.42	0.6
IDLE	7	26.0	0.270	2.46	23.97	4.66	0.2
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1085	1048	10606	17668	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				9	9	9	9
AVERAGE $D_p/F_{oo}$ (g/kN) or AVERAGE SN (MAX)				3.27	33.12	55.17	1.94
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				0.75	5.61	2.4	0.66
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				2.41 - 3.74	26.8 - 37.48	53.41 - 57.9	1.3 - 2.6

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	95.1 - 101.3
TEMPERATURE (K)	279.8 - 293.2
AHS HUMIDITY (kg/kg)	0.00473 - 0.00886

### FUEL

SPEC	-
H/C	1.91
AROM (%)	17.7

MANUFACTURER: Rolls-Royce  
TEST ORGANIZATION: Rolls-Royce  
TEST LOCATION: Derby  
TEST DATES: FROM 16 Mar 95 TO 02 Jun 14

### REMARKS

1. Data from Certification Report DNS196860
2. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
3. NOx levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)
4. Same results for Trent 772 B and Trent 772C

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

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