



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent 556-61  
UNIQUE ID NUMBER: 8RR045  
ENGINE TYPE: TF

BYPASS RATIO: 7.5  
PRESSURE RATIO ( $\pi_{oo}$ ): 36.63  
RATED OUTPUT ( $F_{oo}$ ) (kN): 263.9

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	0.3	15.2	64.9	5.4
AS % OF ORIGINAL LIMIT	1.5 %	12.9 %	57.3 %	29.8 %
AS % OF CAEP/2 LIMIT (NOx)			71.6 %	
AS % OF CAEP/4 LIMIT (NOx)			80.9 %	
AS % OF CAEP/6 LIMIT (NOx)			89.9 %	
AS % OF CAEP/8 LIMIT (NOx)			102.4 %	

### DATA STATUS

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

### TEST ENGINE STATUS

x 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)  
x OUT OF PRODUCTION (DATE: - )  
- 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	2.240	0.02	0.17	44.77	4.34
CLIMB OUT	85	2.2	1.830	0.01	0.38	33.25	4.17
APPROACH	30	4.0	0.620	0.04	0.54	11.68	2.05
IDLE	7	26.0	0.230	0.13	9.96	6.09	0.93
LTO TOTAL FUEL (kg) or EMISSIONS (g)			843	57	3762	16167	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				7	7	7	7
AVERAGE $D_p/F_{oo}$ (g/kN) or AVERAGE SN (MAX)				0.2	14.3	61.3	4.9
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				0.2	1.2	1.72	3.12
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				0-0.4	13.5-15.8	59.8-63.2	2.4-8.4

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.04 - 102.91
TEMPERATURE (K)	275.5 - 280.3
ABS HUMIDITY (kg/kg)	0.0038 - 0.0062

### FUEL

SPEC	-
H/C	1.97
AROM (%)	17.4

MANUFACTURER: Rolls-Royce  
TEST ORGANIZATION: Rolls-Royce  
TEST LOCATION: Derby  
TEST DATES: FROM 23 Jun 05 TO 24 Jun 05

### REMARKS

1. Certification Report DNS 90543
2. EP Engine Standard
3. Engines manufactured after 2004

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

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