



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: TAY 651  
UNIQUE ID NUMBER: 3RR033  
ENGINE TYPE: MTF

BYPASS RATIO: 3  
PRESSURE RATIO ( $\pi_{oo}$ ): 16.4  
RATED OUTPUT ( $F_{oo}$ ) (kN): 68.5

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	13.3	113.6	48.3	20.5
AS % OF ORIGINAL LIMIT	67.9 %	96.3 %	66.3 %	78.1 %
AS % OF CAEP/2 LIMIT (NOx)			82.9 %	
AS % OF CAEP/4 LIMIT (NOx)			97.4 %	
AS % OF CAEP/6 LIMIT (NOx)			105.2 %	
AS % OF CAEP/8 LIMIT (NOx)			123.9 %	

### 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)  
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	0.870	0.56	1.68	20.31	17.5
CLIMB OUT	85	2.2	0.720	0.37	1.93	17.13	16
APPROACH	30	4.0	0.260	0.85	6.11	4.77	2.2
IDLE	7	26.0	0.120	3.1	32.68	1.72	0.3
LTO TOTAL FUEL (kg) or EMISSIONS (g)			381	689	6744	2990	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE $D_p/F_{oo}$ (g/kN) or AVERAGE SN (MAX)				10.2	99.7	43.9	17.5
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				9.9-10.4	91.6-107.8	40.9-46.8	16.1-18.9

### ACCESSORY LOADS

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

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99-101
TEMPERATURE (K)	280-289
ABS HUMIDITY (kg/kg)	.005-.008

### FUEL

SPEC	AVTUR
H/C	1.91
AROM (%)	20

MANUFACTURER: Rolls Royce plc  
TEST ORGANIZATION: Rolls Royce plc  
TEST LOCATION: SINFIN, Derby  
TEST DATES: FROM Mar 88 TO Oct 89

### REMARKS

1. Transply combustor

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

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