



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: SPEY Mk555  
UNIQUE ID NUMBER: 1RR017  
COMBUSTOR:  
ENGINE TYPE: MTF  
BYPASS RATIO: 1.0  
PRESSURE RATIO ( $\pi_{00}$ ): 16.1  
RATED THRUST ( $F_{00}$ ) (kN): 43.8

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	510.1	442.1	55.8	
AS % OF ORIGINAL LIMIT	2602.5	374.6	77.3	
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			96.6	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			102.9	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			105.9	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			115.8	

### DATA STATUS

x PRE-REGULATION  
- 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)  
x OUT OF PRODUCTION (DATE: - )  
- OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	0.720	0.88	0.44	18.92	66.2
CLIMB OUT	85	2.2	0.589	1.60	0.00	14.64	
APPROACH	30	4.0	0.222	6.97	22.22	5.92	
IDLE	7	26.0	0.115	92.74	88.23	1.83	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			341	17160	17026	2354	-
NUMBER OF ENGINES				2	2	2	
NUMBER OF TESTS				2	2	2	
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				392.0	388.0	50.8	66.2
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				82.1	148.9	12.5	
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				334-450	283-493	41.9-59.6	

### ACCESSORY LOADS

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

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	102
TEMPERATURE (K)	279
ABS HUMIDITY (kg/kg)	

### FUEL

SPEC	DERD 2494
H/C	1.94
AROM (%)	20

MANUFACTURER: Rolls-Royce plc  
TEST ORGANIZATION: Rolls-Royce Ltd  
TEST LOCATION: Derby  
TEST DATES: 26/05/1985-28/05/1985

### REMARKS

1. Estimate SN by mode data by use of Calvert method

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)