



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: SPEY Mk555  
UNIQUE ID NUMBER: 1RR018  
COMBUSTOR: Transply IIF  
ENGINE TYPE: MTF  
BYPASS RATIO: 1.0  
PRESSURE RATIO ( $\pi_{00}$ ): 15.9  
RATED THRUST ( $F_{00}$ ) (kN): 44.0

### REGULATORY DATA

| CHARACTERISTIC VALUE:                        | HC   | CO    | NO <sub>x</sub> | SMOKE NUMBER |
|--|------|-------|-----------------|--------------|
| D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN | 8.3  | 115.0 | 69.4            | 28.4         |
| AS % OF ORIGINAL LIMIT                       | 42.3 | 97.4  | 96.6            | 95.7         |
| AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )      |      |       | 120.8           |              |
| AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )      |      |       | 128.8           |              |
| AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )      |      |       | 132.5           |              |
| AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )      |      |       | 145.1           |              |

### 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 (DATE: - )

### MEASURED DATA

| MODE   | POWER SETTING (%F <sub>00</sub> ) | TIME (minutes) | FUEL FLOW (kg/s) | HC      | CO         | NO <sub>x</sub> | SMOKE NUMBER |
|--|-----------------------------------|----------------|------------------|---------|------------|-----------------|--------------|
| TAKE-OFF   | 100                               | 0.7            | 0.735            | 0.29    | 0.30       | 21.90           | 23.7         |
| CLIMB OUT  | 85                                | 2.2            | 0.592            | 0.15    | 0.70       | 16.50           | 25.3         |
| APPROACH   | 30                                | 4.0            | 0.221            | 0.29    | 3.70       | 6.80            | 17.0         |
| IDLE   | 7                                 | 26.0           | 0.096            | 1.86    | 29.30      | 3.70            | 7.1          |
| LTO TOTAL FUEL (kg) or EMISSIONS (g)                               |                                   |                | 312              | 315     | 4648       | 2880            | -            |
| NUMBER OF ENGINES  |                                   |                |                  | 3       | 3          | 3               | 3            |
| NUMBER OF TESTS  |                                   |                |                  | 3       | 3          | 3               | 3            |
| AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX) |                                   |                |                  | 7.1     | 106.3      | 65.5            | 25.8         |
| SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)             |                                   |                |                  | 2.2     | 16.3       | 1.7             | 1.7          |
| RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)             |                                   |                |                  | 5.8-9.7 | 88.7-120.8 | 64.5-67.5       | 24-27.4      |

### ACCESSORY LOADS

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

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

|                      |            |
|----------------------|------------|
| BAROMETER (kPa)      | 99-102     |
| TEMPERATURE (K)      | 280-290    |
| ABS HUMIDITY (kg/kg) | 0.006-0.01 |

### FUEL

|          |           |
|----------|-----------|
| SPEC     | DERD 2494 |
| H/C      | 1.91      |
| AROM (%) | 20        |

MANUFACTURER: Rolls-Royce plc  
TEST ORGANIZATION:  
TEST LOCATION:  
TEST DATES: 01/08/1983-01/11/1984

### REMARKS

1. Ref RR report CRR10145.
2. Transply IIF combustors with H.P. fuel pump.

Compliance with Fuel Venting requirements:

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