



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: BR700-715B1-30
UNIQUE ID NUMBER: 4BR003
COMBUSTOR:
ENGINE TYPE: MTF
BYPASS RATIO: 4.6
PRESSURE RATIO (π_{co}): 30.5
RATED THRUST (F_{oo}) (kN): 89.7

REGULATORY DATA

| CHARACTERISTIC VALUE: | HC | CO | NO _x | SMOKE NUMBER |
|--|-----|------|-----------------|--------------|
| D _p /F _{oo} (g/kN) or SN | 0.5 | 36.9 | 59.2 | 4.6 |
| AS % OF ORIGINAL LIMIT | 2.3 | 31.3 | 58.7 | 18.9 |
| AS % OF CAEP/2 LIMIT (NO _x) | | | 73.3 | |
| AS % OF CAEP/4 LIMIT (NO _x) | | | 87.2 | |
| AS % OF CAEP/6 LIMIT (NO _x) | | | 98.9 | |
| AS % OF CAEP/8 LIMIT (NO _x) | | | 115.9 | |

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 (DATE: -)

MEASURED DATA

| MODE | POWER SETTING (%F _{oo}) | TIME (minutes) | FUEL FLOW (kg/s) | HC | CO | NO _x | SMOKE NUMBER |
|--|-----------------------------------|----------------|------------------|-----------|-------------|-----------------|--------------|
| TAKE-OFF | 100 | 0.7 | 0.905 | 0.00 | 0.78 | 27.21 | 3.6 |
| CLIMB OUT | 85 | 2.2 | 0.743 | 0.01 | 0.76 | 20.34 | 2.9 |
| APPROACH | 30 | 4.0 | 0.259 | 0.00 | 3.38 | 11.38 | 1.0 |
| IDLE | 7 | 26.0 | 0.098 | 0.17 | 15.56 | 5.54 | 0.9 |
| LTO TOTAL FUEL (kg) or EMISSIONS (g) | | | 351 | 27 | 2693 | 4583 | - |
| NUMBER OF ENGINES | | | | 1 | 1 | 1 | 1 |
| NUMBER OF TESTS | | | | 3 | 3 | 3 | 3 |
| AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX) | | | | 0.3 | 30.1 | 51.1 | 3.6 |
| SIGMA (D _p /F _{oo} in g/kN, or SN) | | | | | | | |
| RANGE (D _p /F _{oo} in g/kN, or SN) | | | | 0.24-0.37 | 29.44-31.21 | 50.79-51.54 | 3.24-3.8 |

ACCESSORY LOADS

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

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

| | |
|----------------------|---------------|
| BAROMETER (kPa) | 101.3-101.9 |
| TEMPERATURE (K) | 288.8-294.4 |
| ABS HUMIDITY (kg/kg) | 0.0066-0.0079 |

FUEL

| | |
|----------|-------|
| SPEC | AVTUR |
| H/C | 1.89 |
| AROM (%) | 17.7 |

MANUFACTURER: Rolls-Royce Deutschland
TEST ORGANIZATION: BMW Rolls-Royce GmbH
TEST LOCATION: Dahlewitz
TEST DATES: 07/05/1998-08/05/1998

REMARKS

1. Data from Certification Report E-TR484/98 (FR) ISS00

Compliance with Fuel Venting requirements:

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