



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: AE3007A1E
UNIQUE ID NUMBER: 6AL020
COMBUSTOR: Type 3
ENGINE TYPE: MTF

BYPASS RATIO: 4.7
PRESSURE RATIO (π_{00}): 19.1
RATED THRUST (F_{00}) (kN): 37.2

REGULATORY DATA

** DATA SUPERSEDED **

SEE FOLLOWING UID FOR REVISED DATA:

01P06AL032

| CHARACTERISTIC VALUE: | HC | CO | NO _x | SMOKE NUMBER |
|--|------|------|-----------------|--------------|
| D _p /F ₀₀ (g/kN) or SN | 10.9 | 99.6 | 46.8 | 0.0 |
| AS % OF ORIGINAL LIMIT | 55.8 | 84.4 | 59.9 | 0.0 |
| AS % OF CAEP/2 LIMIT (NO _x) | | | 74.9 | |
| AS % OF CAEP/4 LIMIT (NO _x) | | | 77.6 | |
| AS % OF CAEP/6 LIMIT (NO _x) | | | 78.9 | |
| AS % OF CAEP/8 LIMIT (NO _x) | | | 84.8 | |

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 ₀₀) | TIME (minutes) | FUEL FLOW (kg/s) | HC | CO | NO _x | SMOKE NUMBER |
|--|-----------------------------------|----------------|------------------|------|-------|-----------------|--------------|
| TAKE-OFF | 100 | 0.7 | 0.412 | 0.03 | 0.77 | 17.17 | 0.0 |
| CLIMB OUT | 85 | 2.2 | 0.343 | 0.03 | 0.64 | 14.91 | 0.0 |
| APPROACH | 30 | 4.0 | 0.120 | 0.03 | 5.63 | 7.42 | 0.0 |
| IDLE | 7 | 26.0 | 0.048 | 3.52 | 37.97 | 4.26 | 0.0 |
| LTO TOTAL FUEL (kg) or EMISSIONS (g) | | | 165 | 264 | 3018 | 1501 | - |
| NUMBER OF ENGINES | | | | 1 | 1 | 1 | 1 |
| NUMBER OF TESTS | | | | 3 | 3 | 3 | 3 |
| AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX) | | | | 7.1 | 81.2 | 40.4 | 0.0 |
| SIGMA (D _p /F ₀₀ in g/kN, or SN) | | | | | | | |
| RANGE (D _p /F ₀₀ in g/kN, or SN) | | | | | | | |

ACCESSORY LOADS

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

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

| | |
|----------------------|-------------|
| BAROMETER (kPa) | 98.9-99 |
| TEMPERATURE (K) | 291-301 |
| ABS HUMIDITY (kg/kg) | 0.009-0.012 |

FUEL

| | |
|----------|-------|
| SPEC | Jet A |
| H/C | 1.9 |
| AROM (%) | 16-20 |

MANUFACTURER: Rolls-Royce Corporation
TEST ORGANIZATION: Rolls-Royce Corporation
TEST LOCATION: Indianapolis, Indiana
TEST DATES: 09/06/2001-11/06/2001

NO_x REGULATION PARAGRAPH

| | |
|---|-------------------|
| | 2.3.2 c) (CAEP/4) |
| | 2.3.2 d) (CAEP/6) |
| x | 2.3.2 e) (CAEP/8) |

REMARKS

- For effectivity see Rolls-Royce Notice to Operators No. AE3007A-076
- Data in this form for AE3007A1E engine fitted with reduced emissions combustor & PAB fuel nozzles
- Results based on Rolls-Royce report EDR 19587
- Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
- NO_x levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

Compliance with Fuel Venting requirements:

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