



## ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF6-80A1  
UNIQUE ID NUMBER: 1GE011  
ENGINE TYPE: TF

BYPASS RATIO: 5  
PRESSURE RATIO ( $\pi_{oo}$ ): 29  
RATED OUTPUT ( $F_{oo}$ ) (kN): 209

## REGULATORY DATA

| CHARACTERISTIC VALUE:      | HC     | CO     | NOx     | SMOKE NUMBER |
|----------------------------|--------|--------|---------|--------------|
| $D_p/F_{oo}$ (g/kN) or SN  | 12.1   | 43.6   | 61.4    | 15.6         |
| AS % OF ORIGINAL LIMIT     | 61.7 % | 36.9 % | 62.7 %  | 80.7 %       |
| AS % OF CAEP/2 LIMIT (NOx) |        |        | 78.3 %  |              |
| AS % OF CAEP/4 LIMIT (NOx) |        |        | 93.9 %  |              |
| AS % OF CAEP/6 LIMIT (NOx) |        |        | 106.7 % |              |
| AS % OF CAEP/8 LIMIT (NOx) |        |        | 126.1 % |              |

## DATA STATUS

x PRE-REGULATION  
- CERTIFICATION  
- REVISED (SEE REMARKS)

## TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
- 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          | 2.145          | 0.29                     | 1         | 29.8      | 12           |
| CLIMB OUT                                       | 85                          | 2.2          | 1.795          | 0.29                     | 1.1       | 25.6      | 10           |
| APPROACH  | 30                          | 4.0          | 0.615          | 0.47                     | 3.1       | 10.3      | 2            |
| IDLE  | 7                           | 26.0         | 0.150          | 6.29                     | 28.2      | 3.4       | 2            |
| LTO TOTAL FUEL (kg) or EMISSIONS (g)            |                             |              | 709            | 1636                     | 7407      | 11066     | -            |
| NUMBER OF ENGINES                               |                             |              |                | 1                        | 1         | 1         | 1            |
| NUMBER OF TESTS                                 |                             |              |                | 3                        | 3         | 3         | 1            |
| AVERAGE $D_p/F_{oo}$ (g/kN) or AVERAGE SN (MAX) |                             |              |                | 7.83                     | 35.5      | 53        | 12           |
| SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)            |                             |              |                | 0.95                     | 0.4       | 3         | -            |
| RANGE ( $D_p/F_{oo}$ in g/kN, or SN)            |                             |              |                | 7.16-8.92                | 35.0-35.9 | 49.6-55.3 | -            |

## ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
STAGE BLEED 0 % CORE FLOW AT - POWER SETTINGS

## ATMOSPHERIC CONDITIONS

|                      |             |
|----------------------|-------------|
| BAROMETER (kPa)      | 99.08-99.78 |
| TEMPERATURE (K)      | 275 - 277   |
| ABS HUMIDITY (kg/kg) | 0.002       |

## FUEL

|          |       |
|----------|-------|
| SPEC     | Jet A |
| H/C      | 1.93  |
| AROM (%) | 17.1  |

MANUFACTURER: GE Aircraft Engines  
TEST ORGANIZATION: Production Engine Test  
TEST LOCATION: Production Test Cells M35  
TEST DATES: FROM 11 Nov 83 TO 12 Nov 83

## REMARKS

1. Ref GE Report no R83AEB635.
2. Engine S/N 580214.
3. Smoke from Engine S/N 580005, report R81AEG513.
4. With approval of US FAA, idle power data were only acquired at the engine design setting of 3.69%.

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

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