



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF6-80A2  
 UNIQUE ID NUMBER: 1GE012  
 ENGINE TYPE: TF

BYPASS RATIO: 5  
 PRESSURE RATIO ( $\pi_{00}$ ): 30.1  
 RATED OUTPUT ( $F_{00}$ ) (kN): 216.5

### REGULATORY DATA

| CHARACTERISTIC VALUE:      | HC     | CO     | NOx     | SMOKE NUMBER |
|----------------------------|--------|--------|---------|--------------|
| $D_p/F_{00}$ (g/kN) or SN  | 11.7   | 42.0   | 64.3    | 15.6         |
| AS % OF ORIGINAL LIMIT     | 59.7 % | 35.6 % | 64.2 %  | 81.4 %       |
| AS % OF CAEP/2 LIMIT (NOx) |        |        | 80.2 %  |              |
| AS % OF CAEP/4 LIMIT (NOx) |        |        | 95.7 %  |              |
| AS % OF CAEP/6 LIMIT (NOx) |        |        | 108.7 % |              |
| AS % OF CAEP/8 LIMIT (NOx) |        |        | 127.8 % |              |

### 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<br>SETTING<br>(%F <sub>oo</sub> ) | TIME<br>minutes | FUEL FLOW<br>kg/s | EMISSIONS INDICES (g/kg) |           |           | SMOKE NUMBER |
|--|---|-----------------|-------------------|--------------------------|-----------|-----------|--------------|
|  |   |                 |                   | HC                       | CO        | NOx       |              |
| TAKE-OFF   | 100                                     | 0.7             | 2.254             | 0.3                      | 1         | 29.6      | 12           |
| CLIMB OUT  | 85                                      | 2.2             | 1.885             | 0.37                     | 1.1       | 26.6      | 10           |
| APPROACH   | 30                                      | 4.0             | 0.641             | 0.45                     | 2.8       | 10.8      | 2            |
| IDLE   | 7                                       | 26.0            | 0.150             | 6.28                     | 28.2      | 3.4       | 2            |
| LTO TOTAL FUEL (kg) or EMISSIONS (g)                               |   |                 | 731               | 1659                     | 7398      | 11878     | -            |
| NUMBER OF ENGINES  |   |                 |                   | 1                        | 1         | 1         | 1            |
| NUMBER OF TESTS  |   |                 |                   | 3                        | 3         | 3         | 1            |
| AVERAGE D <sub>p</sub> /F <sub>oo</sub> (g/kN) or AVERAGE SN (MAX) |   |                 |                   | 7.58                     | 34.2      | 55.5      | 12           |
| SIGMA (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)             |   |                 |                   | 0.96                     | 0.4       | 2.9       | -            |
| RANGE (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)             |   |                 |                   | 6.91-8.69                | 33.8-34.5 | 52.4-58.1 | -            |

### 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)