



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: JT9D-7Q  
UNIQUE ID NUMBER: 1PW025  
ENGINE TYPE: TF

BYPASS RATIO: 4.9  
PRESSURE RATIO ( $\pi_{oo}$ ): 24.5  
RATED OUTPUT ( $F_{oo}$ ) (kN): 235.75

### REGULATORY DATA

| CHARACTERISTIC VALUE:      | HC      | CO     | NOx     | SMOKE NUMBER |
|----------------------------|---------|--------|---------|--------------|
| $D_p/F_{oo}$ (g/kN) or SN  | 26.0    | 107.6  | 63.1    | 10.3         |
| AS % OF ORIGINAL LIMIT     | 132.8 % | 91.2 % | 70.9 %  | 55.0 %       |
| AS % OF CAEP/2 LIMIT (NOx) |         |        | 88.6 %  |              |
| AS % OF CAEP/4 LIMIT (NOx) |         |        | 108.3 % |              |
| AS % OF CAEP/6 LIMIT (NOx) |         |        | 123.1 % |              |
| AS % OF CAEP/8 LIMIT (NOx) |         |        | 148.9 % |              |

### 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          | 2.442          | 0.2                      | 0.2   | 31.6  | -            |
| CLIMB OUT                                       | 85                          | 2.2          | 2.000          | 0.2                      | 0.2   | 25.6  | -            |
| APPROACH                                        | 30                          | 4.0          | 0.680          | 0.3                      | 1.7   | 7.8   | -            |
| IDLE                                            | 7                           | 26.0         | 0.237          | 12                       | 53    | 3     | -            |
| LTO TOTAL FUEL (kg) or EMISSIONS (g)            |                             |              | 900            | 4559                     | 19946 | 12381 | -            |
| NUMBER OF ENGINES                               |                             |              |                | 2                        | -     | -     | -            |
| NUMBER OF TESTS                                 |                             |              |                | 2                        | -     | -     | -            |
| AVERAGE $D_p/F_{oo}$ (g/kN) or AVERAGE SN (MAX) |                             |              |                | 20                       | 87.7  | 54.4  | 8            |
| SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)            |                             |              |                | 2.4                      | 5.9   | 3     | 1            |
| RANGE ( $D_p/F_{oo}$ in g/kN, or SN)            |                             |              |                | -                        | -     | -     | -            |

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

|                      |               |
|----------------------|---------------|
| BAROMETER (kPa)      | 97-100        |
| TEMPERATURE (K)      | 280 - 285     |
| ABS HUMIDITY (kg/kg) | 0.0029-0.0050 |

### FUEL

|          |       |
|----------|-------|
| SPEC     | Jet A |
| H/C      | 1.89  |
| AROM (%) | -     |

MANUFACTURER: Pratt & Whitney  
TEST ORGANIZATION: P&WA  
TEST LOCATION: E Hartford, CT, USA  
TEST DATES: FROM Apr 76 TO Apr 76

### REMARKS

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

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