# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: JT9D-7F  
UNIQUE ID NUMBER: 1PW023  
ENGINE TYPE: TF  

BYPASS RATIO: 5.1  
PRESSURE RATIO ($\pi_{oo}$): 22.8  
RATED OUTPUT ($F_{oo}$) (kN): 213.5  

### REGULATORY DATA

| CHARACTERISTIC VALUE: | HC | CO | NOx | SMOKE NUMBER |
|---|---|---|---|---|
| $D_p/F_{oo}$ (g/kN) or SN | 70.1 | 153.6 | 73.1 | 20.8 |
| AS % OF ORIGINAL LIMIT | 357.7 % | 130.2 % | 85.4 % | 108.2 % |
| AS % OF CAEP/2 LIMIT (NOx) | | | 106.7 % | |
| AS % OF CAEP/4 LIMIT (NOx) | | | 131.8 % | |
| AS % OF CAEP/6 LIMIT (NOx) | | | 149.7 % | |
| AS % OF CAEP/8 LIMIT (NOx) | | | 182.8 % | |

DATA STATUS

    x    PRE-REGULATION  
    -    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  

### MEASURED DATA

| MODE | POWER SETTING (%$F_{oo}$) | TIME minutes | FUEL FLOW kg/s | EMISSIONS INDICES (g/kg) HC | CO | NOx | SMOKE NUMBER |
|---|---|---|---|---|---|---|---|
| TAKE-OFF | 100 | 0.7 | 2.161 | 0 | 0.9 | 41.7 | 16 |
| CLIMB OUT | 85 | 2.2 | 1.779 | 0 | 0.9 | 31.5 | - |
| APPROACH | 30 | 4.0 | 0.624 | 0.6 | 5.8 | 9.1 | - |
| IDLE | 7 | 26.0 | 0.232 | 25.9 | 68.6 | 3.2 | - |
| LTO TOTAL FUEL (kg) or EMISSIONS (g) | | | 837 | 9464 | 25989 | 13703 | - |
| NUMBER OF ENGINES | | | | 1 | 1 | 1 | - |
| NUMBER OF TESTS | | | | 1 | 1 | 1 | - |
| AVERAGE $D_p/F_{oo}$ (g/kN) or AVERAGE SN (MAX) | | | | 45.5 | 125.1 | 63.1 | 16 |
| SIGMA ($D_p/F_{oo}$ in g/kN, or SN) | | | | - | - | - | - |
| 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) | - |
|---|---|
| TEMPERATURE (K) | - |
| ABS HUMIDITY (kg/kg) | - |

### FUEL

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

MANUFACTURER: Pratt & Whitney  
TEST ORGANIZATION: P&WA  
TEST LOCATION: E Hartford, CT, USA  
TEST DATES: FROM 16 Sep 80 TO -  

### REMARKS

1. Mod VI combustor

If REVISED, this data supersedes databank UID  
Compliance with fuel venting requirements:     0    ('x' if complies, PR if pre-regulation)