



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW1923G-A
UNIQUE ID NUMBER: 20PW137
ENGINE TYPE: TF

BYPASS RATIO: 11.2
PRESSURE RATIO (π_{oo}): 37.7
RATED OUTPUT (F_{oo}) (kN): 105.9

REGULATORY DATA

| CHARACTERISTIC VALUE: | HC | CO | NOx | SMOKE NUMBER |
|----------------------------|-------|--------|--------|--------------|
| D_p/F_{oo} (g/kN) or SN | 0.3 | 26.1 | 39.4 | 4.0 |
| AS % OF ORIGINAL LIMIT | 2.0 % | 22.0 % | 34.0 % | 17.0 % |
| AS % OF CAEP/2 LIMIT (NOx) | | | 43.0 % | |
| AS % OF CAEP/4 LIMIT (NOx) | | | 48.0 % | |
| AS % OF CAEP/6 LIMIT (NOx) | | | 53.0 % | |
| AS % OF CAEP/8 LIMIT (NOx) | | | 60.0 % | |

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)
- OUT OF PRODUCTION
- OUT OF SERVICE

MEASURED DATA

| MODE | POWER SETTING (% F_{oo}) | TIME minutes | FUEL FLOW kg/s | EMISSIONS INDICES (g/kg) | | | SMOKE NUMBER |
|---|-----------------------------|--------------|----------------|--------------------------|-------------|-------------|--------------|
| TAKE-OFF | 100 | 0.7 | 0.760 | 0 | 0 | 24.2 | 3.1 |
| CLIMB OUT | 85 | 2.2 | 0.630 | 0 | 0 | 19.3 | 1.8 |
| APPROACH | 30 | 4.0 | 0.220 | 0.1 | 2.3 | 10.2 | 0.8 |
| IDLE | 7 | 26.0 | 0.070 | 0.1 | 18.4 | 5.7 | 0.5 |
| LTO TOTAL FUEL (kg) or EMISSIONS (g) | | | 285 | 19 | 2256 | 3599 | - |
| NUMBER OF ENGINES | | | | 1 | 1 | 1 | 1 |
| NUMBER OF TESTS | | | | 3 | 3 | 3 | 3 |
| AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX) | | | | 0.2 | 21.3 | 34 | 3.1 |
| SIGMA (D_p/F_{oo} in g/kN, or SN) | | | | - | - | - | - |
| RANGE (D_p/F_{oo} in g/kN, or SN) | | | | 0.1 - 0.3 | 21.1 - 21.5 | 33.7 - 34.2 | 2.7 - 3.9 |

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

| | |
|----------------------|-------------------|
| BAROMETER (kPa) | 101.97 - 103.29 |
| TEMPERATURE (K) | 272.0 - 278.1 |
| ABS HUMIDITY (kg/kg) | 0.00122 - 0.00221 |

FUEL

| | |
|----------|---------------|
| SPEC | Jet-A |
| H/C | 1.94 |
| AROM (%) | 17.8% - 18.4% |

MANUFACTURER: Pratt & Whitney
TEST ORGANIZATION: Pratt & Whitney
TEST LOCATION: Mirabel Aerospace Centre - Quebec
TEST DATES: FROM 25 Mar 18 TO 26 Mar 18

REMARKS

1. Data from Certification Report PWA-11601
2. Block C combustor
3. Certification in accordance with Part III, Chapter 2, of Amendment 8 of ICAO Annex 16 Vol. II.
4. NOx levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

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

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