



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW307A BYPASS RATIO: 4.2
UNIQUE ID NUMBER: 16PW114 PRESSURE RATIO (π_{00}): 20.2
COMBUSTOR: TALON II
ENGINE TYPE: MTF RATED THRUST (F_{00}) (kN): 28.5

REGULATORY DATA ** DATA SUPERSEDED ** SEE FOLLOWING UID FOR REVISED DATA: 01P16PW143

| CHARACTERISTIC VALUE: | HC | CO | NO _x | SMOKE NUMBER |
|--|------|------|-----------------|--------------|
| D _p /F ₀₀ (g/kN) or SN | 5.6 | 99.1 | 45.3 | 1.9 |
| AS % OF ORIGINAL LIMIT | 28.6 | 84.0 | 56.3 | 5.7 |
| AS % OF CAEP/2 LIMIT (NO _x) | | | 70.4 | |
| AS % OF CAEP/4 LIMIT (NO _x) | | | 70.8 | |
| AS % OF CAEP/6 LIMIT (NO _x) | | | 71.0 | |
| AS % OF CAEP/8 LIMIT (NO _x) | | | 75.0 | |

DATA STATUS

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

TEST ENGINE STATUS

x 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 (DATE: -)
- OUT OF SERVICE (DATE: -)

MEASURED DATA

| MODE | POWER SETTING (%F ₀₀) | TIME (minutes) | FUEL FLOW (kg/s) | HC | CO | NO _x | SMOKE NUMBER |
|--|-----------------------------------|----------------|------------------|---------|-----------|-----------------|--------------|
| TAKE-OFF | 100 | 0.7 | 0.327 | 0.00 | 0.27 | 18.28 | 0.7 |
| CLIMB OUT | 85 | 2.2 | 0.272 | 0.00 | 0.23 | 15.58 | 0.3 |
| APPROACH | 30 | 4.0 | 0.102 | 0.00 | 3.23 | 8.77 | 0.0 |
| IDLE | 7 | 26.0 | 0.044 | 1.99 | 36.92 | 2.86 | 1.7 |
| LTO TOTAL FUEL (kg) or EMISSIONS (g) | | | 143 | 137 | 2625 | 1221 | - |
| NUMBER OF ENGINES | | | | 3 | 3 | 3 | 3 |
| NUMBER OF TESTS | | | | 3 | 3 | 3 | 3 |
| AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX) | | | | 4.8 | 91.6 | 42.8 | 1.7 |
| SIGMA (D _p /F ₀₀ in g/kN, or SN) | | | | 1.5 | 6.5 | 0.7 | 0.2 |
| RANGE (D _p /F ₀₀ in g/kN, or SN) | | | | 3.2-6.2 | 85.4-98.4 | 42-43.3 | 1.5-1.9 |

ACCESSORY LOADS

POWER EXTRACTION 0 (kW)
STAGE BLEED 0 (% CORE FLOW)

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

| | |
|----------------------|---------------|
| BAROMETER (kPa) | 98.3-100.7 |
| TEMPERATURE (K) | 275-278 |
| ABS HUMIDITY (kg/kg) | 0.0024-0.0047 |

FUEL

| | |
|----------|-----------|
| SPEC | Jet A-1 |
| H/C | 1.86-1.87 |
| AROM (%) | 19.8-21 |

MANUFACTURER: Pratt & Whitney Canada
TEST ORGANIZATION: PW307 Development Engineering
TEST LOCATION: Mississauga, Ontario, Canada
TEST DATES: 16/02/2012-23/02/2012

NO_x REGULATION PARAGRAPH

| | |
|---|-------------------|
| | 2.3.2 c) (CAEP/4) |
| | 2.3.2 d) (CAEP/6) |
| x | 2.3.2 e) (CAEP/8) |

REMARKS

1. P&WC ER 5606 revision B
2. Engines tested: CH0581/01, CH0582/01, CH0583/01
3. Weight reduced fuel nozzles and CCOC, aft shifted liner
4. Engines CH0581 onwards incorporate this combustion system design standard
5. Defined by P&WC Engineering Change E6298
6. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
7. NO_x levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

Compliance with Fuel Venting requirements:

x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)