



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW307A BYPASS RATIO: 4.2  
UNIQUE ID NUMBER: 01P16PW143 PRESSURE RATIO ( $\pi_{co}$ ): 20.2  
COMBUSTOR: TALON II  
ENGINE TYPE: MTF RATED THRUST ( $F_{oo}$ ) (kN): 28.5

### REGULATORY DATA

**\*\* DATA SUPERSEDED \*\***

**SEE FOLLOWING UID FOR REVISED DATA:**

**03P16PW192**

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
$D_p/F_{oo}$ (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 <sub>x</sub> )			70.4	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			70.8	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			71.0	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			75.0	

For non-volatile particulate matter (nvPM) emissions, please refer to the ICAO Engine nvPM Emissions Data Sheet.

### 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 (% $F_{oo}$ )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
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 $D_p/F_{oo}$ (g/kN) or AVERAGE SN (MAX)				4.8	91.6	42.8	1.7
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				1.5	6.5	0.7	0.2
RANGE ( $D_p/F_{oo}$ 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) AT - POWER SETTINGS  
STAGE BLEED 0 (% CORE FLOW) 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<sub>x</sub> REGULATION PARAGRAPH

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

### REMARKS

- P&WC ER 5606 revision B
- Engines tested: CH0581/01, CH0582/01, CH0583/01
- Weight reduced fuel nozzles and CCOC, aft shifted liner
- Engines CH0581 onwards incorporate this combustion system design standard
- Defined by P&WC Engineering Change E6298
- Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
- NO<sub>x</sub> 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)