



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4158
UNIQUE ID NUMBER: 1PW048
COMBUSTOR: Reduced smoke
ENGINE TYPE: TF
BYPASS RATIO: 4.6
PRESSURE RATIO (π_{oo}): 30.7
RATED THRUST (F_{oo}) (kN): 258.0

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	3.7	35.2	58.2	10.4
AS % OF ORIGINAL LIMIT	18.9	29.9	57.4	57.1
AS % OF CAEP/2 LIMIT (NO _x)			71.7	
AS % OF CAEP/4 LIMIT (NO _x)			85.1	
AS % OF CAEP/6 LIMIT (NO _x)			96.4	
AS % OF CAEP/8 LIMIT (NO _x)			113.0	

DATA STATUS

- PRE-REGULATION
x 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 (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO _x	SMOKE NUMBER
TAKE-OFF	100	0.7	2.481	0.09	0.40	30.20	8.1
CLIMB OUT	85	2.2	2.004	0.02	0.54	23.70	
APPROACH	30	4.0	0.682	0.14	1.88	11.80	
IDLE	7	26.0	0.211	1.78	20.99	4.80	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			862	623	7401	12928	-
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)				2.4	28.7	50.2	8.1
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)
STAGE BLEED 0 (% CORE FLOW)

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.2
TEMPERATURE (K)	299
AIR HUMIDITY (kg/kg)	0.01

FUEL

SPEC	Jet A
H/C	1.88
AROM (%)	19.7

MANUFACTURER: Pratt & Whitney
TEST ORGANIZATION: Pratt & Whitney
TEST LOCATION:
TEST DATES: 17/08/1987-23/08/1987

REMARKS

1. Data from X698-5 with reduced smoke combustor.

Compliance with Fuel Venting requirements:

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