



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4156
UNIQUE ID NUMBER: 1PW046
COMBUSTOR:
ENGINE TYPE: TF

BYPASS RATIO: 4.7
PRESSURE RATIO (π_{oo}): 29.3
RATED THRUST (F_{oo}) (kN): 252.4

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	1.8	17.4	59.9	18.4
AS % OF ORIGINAL LIMIT	9.4	14.8	60.8	100.2
AS % OF CAEP/2 LIMIT (NO _x)			76.0	
AS % OF CAEP/4 LIMIT (NO _x)			91.0	
AS % OF CAEP/6 LIMIT (NO _x)			103.4	
AS % OF CAEP/8 LIMIT (NO _x)			121.9	

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	2.449	0.11	0.08	32.50	14.3
CLIMB OUT	85	2.2	1.981	0.17	0.14	24.60	
APPROACH	30	4.0	0.647	0.25	0.90	11.60	
IDLE	7	26.0	0.188	0.66	11.60	5.00	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			813	288	3587	13043	-
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)				1.2	14.2	51.7	14.3
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)	101.6
TEMPERATURE (K)	290
ABS HUMIDITY (kg/kg)	0.00053

FUEL

SPEC	Jet A
H/C	1.87
AROM (%)	19.7

MANUFACTURER: Pratt & Whitney
TEST ORGANIZATION: Pratt & Whitney
TEST LOCATION: P7 Stand, P&W, Middletown, CT
TEST DATES: 14/05/1986-14/05/1986

REMARKS

Compliance with Fuel Venting requirements:

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