



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: JT9D-59A  
UNIQUE ID NUMBER: 1PW033  
COMBUSTOR:  
ENGINE TYPE: TF

BYPASS RATIO: 4.9  
PRESSURE RATIO ( $\pi_{00}$ ): 24.5  
RATED THRUST ( $F_{00}$ ) (kN): 235.8

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	26.0	107.6	63.1	10.3
AS % OF ORIGINAL LIMIT	132.8	91.2	70.9	55.0
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			88.6	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			108.3	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			123.1	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			148.9	

### DATA STATUS

x PRE-REGULATION  
- CERTIFICATION  
x 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	TIME	FUEL FLOW	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
	SETTING (%F <sub>oo</sub> )	(minutes)	(kg/s)	HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	2.442	0.20	0.20	31.60	
CLIMB OUT	85	2.2	2.000	0.20	0.20	25.60	
APPROACH	30	4.0	0.680	0.30	1.70	7.80	
IDLE	7	26.0	0.237	12.00	53.00	3.00	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			900	4559	19946	12381	-
NUMBER OF ENGINES				2			
NUMBER OF TESTS				2			
AVERAGE D <sub>p</sub> /F <sub>oo</sub> (g/kN) or AVERAGE SN (MAX)				20.0	87.7	54.4	8.0
SIGMA (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)				2.4	5.9	3.0	1.0
RANGE (D <sub>p</sub> /F <sub>oo</sub> 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)	97-100
TEMPERATURE (K)	280-285
ABS HUMIDITY (kg/kg)	0.0029-0.005

### FUEL

SPEC	Jet A
H/C	1.89
AROM (%)	

MANUFACTURER: Pratt & Whitney  
TEST ORGANIZATION: P&WA  
TEST LOCATION: East Hartford, CT  
TEST DATES: 01/04/1976-01/04/1976

### REMARKS

Compliance with Fuel Venting requirements:

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