



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

**** DATA SUPERSEDED ** SEE SHEET: 8PW088**

ENGINE IDENTIFICATION: JT9D-20 BYPASS RATIO: -
UNIQUE ID NUMBER: 1PW031 PRESSURE RATIO (π_{00}): 20.3
ENGINE TYPE: TF RATED OUTPUT (F_{00}) (kN): 205.3

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{00} (g/kN) or SN	64.0	145.6	61.8	14.5
AS % OF ORIGINAL LIMIT	326.6 %	123.4 %	76.7 %	74.4 %
AS % OF CAEP/2 LIMIT (NOx)			95.8 %	
AS % OF CAEP/4 LIMIT (NOx)			120.0 %	
AS % OF CAEP/6 LIMIT (NOx)			136.4 %	
AS % OF CAEP/8 LIMIT (NOx)			169.5 %	

DATA STATUS

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

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
- DEDICATED ENGINES TO PRODUCTION STANDARD
x 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

MEASURED DATA

MODE	POWER SETTING (% F_{00})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	2.099	0.1	0	38.7	12.3
CLIMB OUT	85	2.2	1.789	0.1	0	28.5	9.5
APPROACH	30	4.0	0.619	1.3	7.6	7.6	2.5
IDLE	7	26.0	0.211	36.1	83.6	3.1	0.7
LTO TOTAL FUEL (kg) or EMISSIONS (g)			802	12108	28647	12291	-
NUMBER OF ENGINES				10	10	10	10
NUMBER OF TESTS				10	10	10	10
AVERAGE D_p/F_{00} (g/kN) or AVERAGE SN (MAX)				59	139.6	59.9	12.3
SIGMA (D_p/F_{00} in g/kN, or SN)				-	-	-	-
RANGE (D_p/F_{00} in g/kN, or SN)				-	-	-	-

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
STAGE BLEED 0 % CORE FLOW AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.9-101.7
TEMPERATURE (K)	276 - 300
AWS HUMIDITY (kg/kg)	0.0030-0.0149

FUEL

SPEC	DERD2494
H/C	-
AROM (%)	-

MANUFACTURER: Pratt & Whitney
TEST ORGANIZATION: NGTE, Pyestock, UK
TEST LOCATION: British Airways Engine Overhaul Ltd, Wales
TEST DATES: FROM Mar 76 TO Jul 77

REMARKS

- Emissions estimated from JT9D-7 engines using JT9D-7A performance data.
- Tests performed on in-service engine(s), after overhaul.

If REVISED, this data supersedes databank UID
Compliance with fuel venting requirements:

0 ('x' if complies, PR if pre-regulation)