



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: RB211-524B series
UNIQUE ID NUMBER: 1RR004
ENGINE TYPE: TF

BYPASS RATIO: 4.5
PRESSURE RATIO (π_{oo}): 28
RATED OUTPUT (F_{oo}) (kN): 218.5

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	124.0	197.8	78.3	19.7
AS % OF ORIGINAL LIMIT	632.7 %	167.6 %	81.5 %	103.0 %
AS % OF CAEP/2 LIMIT (NOx)			101.9 %	
AS % OF CAEP/4 LIMIT (NOx)			122.7 %	
AS % OF CAEP/6 LIMIT (NOx)			139.4 %	
AS % OF CAEP/8 LIMIT (NOx)			165.5 %	

DATA STATUS

x PRE-REGULATION
- 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

MEASURED DATA

MODE	POWER SETTING (% F_{oo})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
TAKE-OFF	100	0.7	2.383	0.52	1.83	47	17.9
CLIMB OUT	85	2.2	1.939	0.4	2.82	33	13.5
APPROACH	30	4.0	0.693	4.98	20	9.75	2.7
IDLE	7	26.0	0.272	50.6	82.2	3.53	0.9
LTO TOTAL FUEL (kg) or EMISSIONS (g)			947	22453	39110	16270	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				4	4	4	4
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				106.3	182.9	73.9	17.9
SIGMA (D_p/F_{oo} in g/kN, or SN)				6.61	7.15	6	0.5
RANGE (D_p/F_{oo} in g/kN, or SN)				97.7-112.0	175.6-189	64.9-77.6	17.3-18.4

ACCESSORY LOADS

POWER EXTRACTION 0 (kW)
STAGE BLEED 0 % CORE FLOW

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99.3-100.3
TEMPERATURE (K)	287 - 291
ABS HUMIDITY (kg/kg)	0.008

FUEL

SPEC	DERD 2494
H/C	1.94
AROM (%)	20

MANUFACTURER: Rolls Royce Ltd
TEST ORGANIZATION: Rolls Royce Ltd
TEST LOCATION: Derby
TEST DATES: FROM Jun 79 TO Aug 79

REMARKS

- Package 1 Combustor.
- Applicable to RB211-524B, B2, B3, B4.

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

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