ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: RB211-524H   BYPASS RATIO: 4.2
UNIQUE ID NUMBER: 1RR011   PRESSURE RATIO (π_{oo}):   34
ENGINE TYPE: MTF   RATED OUTPUT (F_{oo}) (kN): 264.4

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	2.5	23.8	107.6	5.0
AS % OF ORIGINAL LIMIT	12.8 %	20.1 %	99.6 %	27.7 %
AS % OF CAEP/2 LIMIT (NOx)			124.5 %	
AS % OF CAEP/4 LIMIT (NOx)			143.5 %	
AS % OF CAEP/6 LIMIT (NOx)			160.7 %	
AS % OF CAEP/8 LIMIT (NOx)			185.1 %	

DATA STATUS

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

TEST ENGINE STATUS

-    NEWLY MANUFACTURED ENGINES
- x 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) HC	CO	NOx	SMOKE NUMBER
TAKE-OFF	100	0.7	2.730	0.34	0.87	65.84	3.03
CLIMB OUT	85	2.2	2.170	0.33	0.38	46.31	3.62
APPROACH	30	4.0	0.710	0.36	0.99	10.26	1.82
IDLE	7	26.0	0.260	0.74	11.75	4.78	0.21
LTO TOTAL FUEL (kg) or EMISSIONS (g)			977	495	5143	24501	–
NUMBER OF ENGINES				2	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				1.93	19.35	92.83	3.9
SIGMA (D_p/F_{oo} in g/kN, or SN)				0.28	0.37	1.79	0.37
RANGE (D_p/F_{oo} in g/kN, or SN)				1.61-2.14	18.9-19.6	91.1-94.6	3.7-4.3

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101
TEMPERATURE (K)	283 - 286
ABS HUMIDITY (kg/kg)	0.006

FUEL

SPEC	AVTUR
H/C	1.91
AROM (%)	20

MANUFACTURER: Rolls Royce Ltd
TEST ORGANIZATION: Rolls Royce Ltd
TEST LOCATION: SINFIN-Derby
TEST DATES: FROM   Apr 87   TO Oct 92

REMARKS

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If REVISED, this data supersedes databank UID
Compliance with fuel venting requirements: 0   ('x' if complies, PR if pre-regulation)