ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION:	Trent 1000-C	BYPASS RATIO:	9.3
UNIQUE ID NUMBER:	11RR050	PRESSURE RATIO (π_{oo}):	43.8
ENGINE TYPE:	TF	RATED OUTPUT (F_{oo}) (kN):	334.7

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	0.1	10.5	66.3	5.8
AS % OF ORIGINAL LIMIT	0.3 %	8.9 %	52.0 %	33.8 %
AS % OF CAEP/2 LIMIT (NOx)			64.9 %	
AS % OF CAEP/4 LIMIT (NOx)			70.1 %	
AS % OF CAEP/6 LIMIT (NOx)			76.6 %	
AS % OF CAEP/8 LIMIT (NOx)			85.3 %	

DATA STATUS

-     PRE-REGULATION
- x   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	2.508	0	0.51	53.54	3
CLIMB OUT	85	2.2	2.048	0	0.48	40.33	3.8
APPROACH	30	4.0	0.668	0	0.68	13.86	3.1
IDLE	7	26.0	0.246	0.04	7.66	5.66	0.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			75	14	3238	20942	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				5	5	5	5
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				0.04	9.67	62.58	5.23
SIGMA (D_p/F_{oo} in g/kN, or SN)				0.037	2.8	0.98	1.99
RANGE (D_p/F_{oo} in g/kN, or SN)				0 - 0.1	5.8 - 12.2	61.5 - 63.8	3 - 8.2

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.9 - 102.1
TEMPERATURE (K)	284.1 - 290.3
ABS HUMIDITY (kg/kg)	0.00432 - 0.00721

FUEL

SPEC	-
H/C	1.89
AROM (%)	16.7

MANUFACTURER:	Rolls-Royce
TEST ORGANIZATION:	Rolls-Royce
TEST LOCATION:	Derby
TEST DATES:	FROM 24 Sep 09 TO 09 Jun 11

REMARKS

1. Representative of Package B engines

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