



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: BR700-710A2-20
UNIQUE ID NUMBER: 01P04BR013
COMBUSTOR:
ENGINE TYPE: MTF
BYPASS RATIO: 4.2
PRESSURE RATIO (π_{co}): 24.2
RATED THRUST (F_{oo}) (kN): 65.6

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	3.8	79.6	49.3	18.0
AS % OF ORIGINAL LIMIT	19.2	67.4	55.8	67.6
AS % OF CAEP/2 LIMIT (NO _x)			69.7	
AS % OF CAEP/4 LIMIT (NO _x)			78.7	
AS % OF CAEP/6 LIMIT (NO _x)			84.6	
AS % OF CAEP/8 LIMIT (NO _x)			96.0	

For non-volatile particulate matter (nvPM) emissions, please refer to the ICAO Engine nvPM Emissions Data Sheet.

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)
- OUT OF PRODUCTION (DATE: -)
- OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO _x	SMOKE NUMBER
TAKE-OFF	100	0.7	0.714	0.02	1.04	18.73	14.0
CLIMB OUT	85	2.2	0.595	0.02	0.93	15.03	11.9
APPROACH	30	4.0	0.214	0.05	4.81	7.67	0.3
IDLE	7	26.0	0.089	1.12	28.00	4.67	0.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			299	160	4239	2784	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				2.4	64.8	42.5	14.0
SIGMA (D _p /F _{oo} in g/kN, or SN)							
RANGE (D _p /F _{oo} in g/kN, or SN)				2.19-2.7	64.31-65.59	41.81-42.91	12.6-15.15

ACCESSORY LOADS

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

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.9-101.2
TEMPERATURE (K)	282.9-286.7
ABS HUMIDITY (kg/kg)	0.0064-0.0087

FUEL

SPEC	AVTUR
H/C	1.89-1.92
AROM (%)	16.4-18

MANUFACTURER: Rolls-Royce Deutschland
TEST ORGANIZATION: BMW Rolls-Royce GmbH
TEST LOCATION: Dahlewitz
TEST DATES: 19/10/1996-20/10/1996

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

REMARKS

1. Data from Certification report E-TR853/96-(FR) ISS01.
2. For Canadair Global Express application
3. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
4. NO_x levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

Compliance with Fuel Venting requirements:

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