



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: BR700-710A1-10  
UNIQUE ID NUMBER: 4BR008  
COMBUSTOR:  
ENGINE TYPE: MTF  
BYPASS RATIO: 4.2  
PRESSURE RATIO ( $\pi_{00}$ ): 24.2  
RATED THRUST ( $F_{00}$ ) (kN): 65.6

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	3.7	78.9	49.3	18.0
AS % OF ORIGINAL LIMIT	18.6	66.8	55.7	67.8
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			69.7	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			78.6	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			84.5	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			95.8	

### 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 (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
TAKE-OFF	100	0.7	0.713	0.02	1.04	18.79	14.0
CLIMB OUT	85	2.2	0.594	0.02	0.93	15.07	11.9
APPROACH	30	4.0	0.214	0.05	4.78	7.68	0.3
IDLE	7	26.0	0.089	1.09	27.82	4.69	0.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			299	156	4212	2790	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				2.4	64.3	42.5	14.0
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				2.13-2.63	63.75-65.02	41.84-42.94	12.64-15.18

### 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<sub>x</sub> 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-TR825/96- (FR) ISS01.
2. For Gulfstream V application

Compliance with Fuel Venting requirements:

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