



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: BR700-710A1-10  
UNIQUE ID NUMBER: 4BR008  
ENGINE TYPE: MTF

BYPASS RATIO: 4.2  
PRESSURE RATIO ( $\pi_{00}$ ): 24.23  
RATED OUTPUT ( $F_{00}$ ) (kN): 65.61

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{00}$ (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 (NOx)			69.7 %	
AS % OF CAEP/4 LIMIT (NOx)			78.6 %	
AS % OF CAEP/6 LIMIT (NOx)			84.5 %	
AS % OF CAEP/8 LIMIT (NOx)			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

### MEASURED DATA

MODE	POWER SETTING (% $F_{00}$ )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	0.713	0.02	1.04	18.79	13.99
CLIMB OUT	85	2.2	0.594	0.02	0.93	15.07	11.92
APPROACH	30	4.0	0.214	0.05	4.78	7.68	0.29
IDLE	7	26.0	0.089	1.09	27.82	4.69	0.56
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 $D_p/F_{00}$ (g/kN) or AVERAGE SN (MAX)				2.37	64.26	42.52	13.99
SIGMA ( $D_p/F_{00}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{00}$ 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) AT - POWER SETTINGS  
STAGE BLEED 0 % CORE FLOW AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.9-101.2
TEMPERATURE (K)	282.9-286.7
ABS HUMIDITY (kg/kg)	.0064-.0087

### FUEL

SPEC	AVTUR
H/C	1.89-1.92
AROM (%)	16.4-18.0

MANUFACTURER: BMW Rolls-Royce GmbH  
TEST ORGANIZATION: BMW Rolls-Royce GmbH  
TEST LOCATION: BMW Rolls-Royce GmbH, Dahlewitz, Germany  
TEST DATES: FROM 19 Oct 96 TO 20 Oct 96

### REMARKS

1. Data from Certification report E-TR825/96-(FR) ISS01.
2. For Gulfstream V application

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

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