



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: BR700-715B1-30
UNIQUE ID NUMBER: 4BR006
COMBUSTOR: Improved fuel injector
ENGINE TYPE: MTF
BYPASS RATIO: 4.6
PRESSURE RATIO (π_{00}): 30.6
RATED THRUST (F_{00}) (kN): 89.7

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	0.4	45.2	51.2	5.9
AS % OF ORIGINAL LIMIT	1.8	38.3	50.6	24.1
AS % OF CAEP/2 LIMIT (NO _x)			63.2	
AS % OF CAEP/4 LIMIT (NO _x)			75.1	
AS % OF CAEP/6 LIMIT (NO _x)			85.1	
AS % OF CAEP/8 LIMIT (NO _x)			99.8	

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 ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO _x	SMOKE NUMBER
TAKE-OFF	100	0.7	0.910	0.03	0.72	24.28	4.6
CLIMB OUT	85	2.2	0.750	0.06	0.63	18.27	4.1
APPROACH	30	4.0	0.257	0.02	3.59	9.01	1.0
IDLE	7	26.0	0.103	0.07	18.60	4.14	0.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			360	20	3300	3958	-
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)				0.2	36.9	44.1	4.6
SIGMA (D _p /F ₀₀ in g/kN, or SN)							
RANGE (D _p /F ₀₀ in g/kN, or SN)				0.03-0.45	36.28-37.42	43-45.23	4.16-5

ACCESSORY LOADS

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

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.9-101.3
TEMPERATURE (K)	294.4-297.2
ABS HUMIDITY (kg/kg)	0.0072-0.0075

FUEL

SPEC	AVTUR
H/C	1.93
AROM (%)	16.6

MANUFACTURER: Rolls-Royce Deutschland
TEST ORGANIZATION: BMW Rolls-Royce GmbH
TEST LOCATION: Dahlewitz
TEST DATES: 29/06/1999

REMARKS

1. Data from certification report E-TR346/99 (FR) ISS00.
2. Incorporating improved fuel injector.

Compliance with Fuel Venting requirements:

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