



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: SPEY Mk511
UNIQUE ID NUMBER: 1RR016
COMBUSTOR: Transply IIH
ENGINE TYPE: MTF

BYPASS RATIO: 0.6
PRESSURE RATIO (π_{00}): 18.7
RATED THRUST (F_{00}) (kN): 50.7

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	19.5	146.9	80.3	25.7
AS % OF ORIGINAL LIMIT	99.6	124.5	103.7	90.1
AS % OF CAEP/2 LIMIT (NO _x)			129.6	
AS % OF CAEP/4 LIMIT (NO _x)			140.9	
AS % OF CAEP/6 LIMIT (NO _x)			146.9	
AS % OF CAEP/8 LIMIT (NO _x)			162.8	

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	0.891	0.09	0.12	22.70	21.9
CLIMB OUT	85	2.2	0.726	0.12	0.63	17.30	20.8
APPROACH	30	4.0	0.278	0.18	2.65	7.20	12.9
IDLE	7	26.0	0.127	3.69	31.77	3.60	6.9
LTO TOTAL FUEL (kg) or EMISSIONS (g)			398	758	6536	3701	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				15.0	128.9	73.0	21.9
SIGMA (D _p /F ₀₀ in g/kN, or SN)				1.9	8.3	4.8	3.1
RANGE (D _p /F ₀₀ in g/kN, or SN)				12.9-16.8	119.5-135.3	67.8-77.2	19.9-25.4

ACCESSORY LOADS

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

AT - POWER SETTINGS
AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99-102
TEMPERATURE (K)	285-289
ABS HUMIDITY (kg/kg)	0.006-0.009

FUEL

SPEC	DERD 2494
H/C	1.91
AROM (%)	20

MANUFACTURER: Rolls-Royce plc
TEST ORGANIZATION: Rolls-Royce Ltd
TEST LOCATION: Derby
TEST DATES: 01/09/1984-01/08/1985

REMARKS

1. Data from RR report CRR10149.
2. Transply IIH combustors.

Compliance with Fuel Venting requirements:

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