



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: AE3007A1/1  
UNIQUE ID NUMBER: 6AL010  
ENGINE TYPE: MTF

BYPASS RATIO: 4.77  
PRESSURE RATIO ( $\pi_{oo}$ ): 17.9  
RATED OUTPUT ( $F_{oo}$ ) (kN): 34.74

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	12.4	109.1	44.5	0.0
AS % OF ORIGINAL LIMIT	63.5 %	92.5 %	58.7 %	0.0 %
AS % OF CAEP/2 LIMIT (NOx)			73.4 %	
AS % OF CAEP/4 LIMIT (NOx)			75.4 %	
AS % OF CAEP/6 LIMIT (NOx)			76.4 %	
AS % OF CAEP/8 LIMIT (NOx)			81.7 %	

### 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  
- OUT OF SERVICE

### MEASURED DATA

MODE	POWER SETTING (% $F_{oo}$ )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	0.381	0.03	0.74	16.1	0.01
CLIMB OUT	85	2.2	0.316	0.03	0.55	14.01	0.01
APPROACH	30	4.0	0.113	0.03	6.8	7.12	0.01
IDLE	7	26.0	0.046	3.88	40.07	4.17	0.01
LTO TOTAL FUEL (kg) or EMISSIONS (g)			156	280	3088	1333	-
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)				8.08	88.9	38.38	0.01
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
STAGE BLEED 0 % CORE FLOW AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.9 - 99.0
TEMPERATURE (K)	291 - 301
AHS HUMIDITY (kg/kg)	0.009 - 0.012

### FUEL

SPEC	Jet A
H/C	1.9
AROM (%)	16 - 20

MANUFACTURER: Rolls-Royce Corporation  
TEST ORGANIZATION: Rolls-Royce Corporation  
TEST LOCATION: Indianapolis, Indiana, USA  
TEST DATES: FROM 09 Jun 01 TO 11 Jun 01

### REMARKS

- For effectivity see Rolls-Royce Notice to Operators No. AE3007A-076
- Data in this form for AE3007A1/1 engine fitted with reduced emissions combustor & PAB fuel nozzles
- Results based on Rolls-Royce report EDR 19587

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

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