



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: AE3007A1/3 BYPASS RATIO: 4.8  
UNIQUE ID NUMBER: 6AL013 PRESSURE RATIO ( $\pi_{oo}$ ): 17.2  
ENGINE TYPE: MTF RATED OUTPUT ( $F_{oo}$ ) (kN): 33.1

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	12.6	108.4	43.7	0.0
AS % OF ORIGINAL LIMIT	64.0 %	91.8 %	58.6 %	0.0 %
AS % OF CAEP/2 LIMIT (NOx)			73.3 %	
AS % OF CAEP/4 LIMIT (NOx)			74.9 %	
AS % OF CAEP/6 LIMIT (NOx)			75.7 %	
AS % OF CAEP/8 LIMIT (NOx)			80.7 %	

### 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)  
x OUT OF PRODUCTION (DATE: - )  
- 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	0.359	0.03	0.5	15.42	0.01
CLIMB OUT	85	2.2	0.300	0.03	0.5	13.49	0.01
APPROACH	30	4.0	0.108	0.03	7.62	6.93	0.01
IDLE	7	26.0	0.045	3.81	38.47	4.27	0.01
LTO TOTAL FUEL (kg) or EMISSIONS (g)			151	269	2919	1245	-
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)				8.15	88.3	37.66	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
ABS 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

1. For effectivity see Rolls-Royce Notice to Operators No. AE3007A-076
2. Data in this form for AE3007A1/3 engine fitted with reduced emissions combustor & PAB fuel nozzles
3. Results based on Rolls-Royce report EDR 19587
4. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
5. NOx levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

If REVISED, this data supersedes databank UID  
Compliance with fuel venting requirements: 0 ('x' if complies, PR if pre-regulation)