



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-85B  
UNIQUE ID NUMBER: 3GE064  
ENGINE TYPE: TF

BYPASS RATIO: 8.44  
PRESSURE RATIO ( $\pi_{oo}$ ): 38  
RATED OUTPUT ( $F_{oo}$ ) (kN): 395.31

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	0.7	17.9	65.6	0.6
AS % OF ORIGINAL LIMIT	3.6 %	15.2 %	56.6 %	3.7 %
AS % OF CAEP/2 LIMIT (NOx)			70.7 %	
AS % OF CAEP/4 LIMIT (NOx)			79.0 %	
AS % OF CAEP/6 LIMIT (NOx)			87.5 %	
AS % OF CAEP/8 LIMIT (NOx)			99.2 %	

### DATA STATUS

- PRE-REGULATION  
x CERTIFICATION  
- REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
- 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	3.169	0.04	0.15	47.28	1.8
CLIMB OUT	85	2.2	2.583	0.04	0.16	35.7	1.8
APPROACH	30	4.0	0.852	0.07	1.1	16.73	1.8
IDLE	7	26.0	0.292	0.45	13.67	5.69	1.8
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1134	238	6526	24478	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				5	5	5	5
AVERAGE $D_p/F_{oo}$ (g/kN) or AVERAGE SN (MAX)				0.6	16.51	61.92	0
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				0.30-0.92	14.4-18.4	57.9-65.3	0.0-1.92

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.52-98.62
TEMPERATURE (K)	283-301
ABS HUMIDITY (kg/kg)	.0036-.0151

### FUEL

SPEC	Jet A
H/C	1.91-1.94
AROM (%)	18.1-19.3

MANUFACTURER: GE  
TEST ORGANIZATION: GE90 Eval Engineering  
TEST LOCATION: Site IIID, PTO, Peebles, Ohio, USA  
TEST DATES: FROM 24 Apr 97 TO 19 Jun 97

### REMARKS

1. GE Report R96AEB292.
2. Engine S/S 900-173, 900-166 & 900-167
3. DAC II combustor

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

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