



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: GENx-1B64/P1  
UNIQUE ID NUMBER: 12GE150  
ENGINE TYPE: TF

BYPASS RATIO: 9  
PRESSURE RATIO ( $\pi_{oo}$ ): 40.5  
RATED OUTPUT ( $F_{oo}$ ) (kN): 298

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	1.2	28.8	35.2	9.8
AS % OF ORIGINAL LIMIT	5.9 %	24.4 %	29.1 %	55.8 %
AS % OF CAEP/2 LIMIT (NOx)			36.4 %	
AS % OF CAEP/4 LIMIT (NOx)			40.0 %	
AS % OF CAEP/6 LIMIT (NOx)			44.0 %	
AS % OF CAEP/8 LIMIT (NOx)			49.5 %	

### DATA STATUS

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

### TEST ENGINE STATUS

x 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	2.278	0.02	0.18	25.74	0
CLIMB OUT	85	2.2	1.876	0.02	0.36	15.36	0
APPROACH	30	4.0	0.618	0.06	2.91	9.11	4.3
IDLE	7	26.0	0.210	0.64	19.73	4.37	0.04
LTO TOTAL FUEL (kg) or EMISSIONS (g)			819	224	7003	9049	-
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)				0.75	23.5	30.36	7.6
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				0.04	0.46	0.14	2
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				0.72-0.80	23.07-23.99	30.21-30.46	5.26-8.96

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.4 to 98.6
TEMPERATURE (K)	280.5 to 299.0
AHS HUMIDITY (kg/kg)	0.00345 to 0.00716

### FUEL

SPEC	JET A
H/C	1.89
AROM (%)	15.3

MANUFACTURER: GE Aviation  
TEST ORGANIZATION: GE Aviation  
TEST LOCATION: PTO, Ohio, USA  
TEST DATES: FROM 29 Sep 09 TO 03 Oct 09

### REMARKS

1. Ref. GE REPORT R2010AE595
2. Engine S/N 956-108/2
3. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
4. 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:

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