



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: GENx-1B54  
UNIQUE ID NUMBER: 11GE134  
ENGINE TYPE: TF

BYPASS RATIO: 9.4  
PRESSURE RATIO ( $\pi_{oo}$ ): 35.2  
RATED OUTPUT ( $F_{oo}$ ) (kN): 255.3

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	2.4	40.2	23.7	1.9
AS % OF ORIGINAL LIMIT	12.3 %	34.1 %	21.5 %	10.4 %
AS % OF CAEP/2 LIMIT (NOx)			26.8 %	
AS % OF CAEP/4 LIMIT (NOx)			30.6 %	
AS % OF CAEP/6 LIMIT (NOx)			34.2 %	
AS % OF CAEP/8 LIMIT (NOx)			39.2 %	

### 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	1.878	0.02	0.36	14.96	0
CLIMB OUT	85	2.2	1.553	0.02	1.55	9.18	0
APPROACH	30	4.0	0.523	0.08	4.18	8.07	5.54
IDLE	7	26.0	0.184	1.34	26.1	3.98	0.05
LTO TOTAL FUEL (kg) or EMISSIONS (g)			696	400	8362	5217	-
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)				1.57	32.75	20.43	1.4
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				0.11	0.8	0.05	0.9
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				1.46 to 1.63	20.3 to 33.5	20.38 to 20.47	0.5 to 2.3

### 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
ABS 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 R2008AE357
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)