



ICAO ENGINE nvPM EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF6-80C2B6F BYPASS RATIO (-): 5.1
UNIQUE ID NUMBER: 01P02GE188 PRESSURE RATIO π_{co} (-): 32.0
COMBUSTOR: LEC
ENGINE TYPE: TF RATED OUTPUT F_{oo} (kN): 267.0

REGULATORY DATA

CHARACTERISTIC VALUES:	LTO_{mass}/F_{oo} (mg/kN)	LTO_{num}/F_{oo} (particles/kN)	NVPM MASS CONCENTRATION ($\mu\text{g}/\text{m}^3$)
LTO/ F_{oo} AND MAX nvPM _{mass}	57.3	6.07E+14	1264
AS % OF CAEP/10 LIMIT	-	-	29.8
AS % OF CAEP/11 LIMIT (InP)	16.5	14.6	
AS % OF CAEP/11 LIMIT (NT)	26.8	21.8	

MEASURED DATA

MODE	POWER SETTING (% F_{oo})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES*		NVPM MASS CONCENTRATION PEAK nvPM _{mass} ($\mu\text{g}/\text{m}^3$)
				EI _{mass} (mg/kg)	EI _{num} (particles/kg)	
TAKE-OFF	100	0.7	2.586	38.6	2.16E+14	
CLIMB OUT	85	2.2	2.094	22.6	2.43E+14	
APPROACH	30	4.0	0.677	1.3	4.21E+13	
IDLE	7	26.0	0.201	1.2	6.09E+13	
LTO TOTAL (kg, mg, number of particles)			861	11014	1.17E+17	-
NUMBER OF ENGINES				1	1	1
NUMBER OF TESTS				3	3	3
AVERAGE LTO/ F_{oo} VALUES (mg/kN, particles/kN)				41.2	4.37E+14	-
MAX EI VALUES (mg/kg, particles/kg) AND MAX MASS CONC. ($\mu\text{g}/\text{m}^3$)				38.6	2.46E+14	982

* Emissions Indices are corrected for thermophoretic loss and fuel hydrogen content

DATA FOR EMISSIONS INVENTORIES (ESTIMATIONS FOR ENGINE EXIT PLANE VALUES)

MODE	POWER SETTING (% F_{oo})	CORRECTED EMISSIONS INDICES	
		EI _{mass_SL} (mg/kg)	EI _{num_SL} (particles/kg)
TAKE-OFF	100	44.5	5.13E+14
CLIMB OUT	85	28.0	8.36E+14
APPROACH	30	2.0	2.69E+14
IDLE	7	2.1	5.34E+14

AMBIENT CONDITIONS

	From	To	FUEL	
BAROMETER (kPa)	97.6	97.8	HEAT OF COMBUSTION (MJ/kg)	43.21
TEMPERATURE (K)	284.8	290.6	HYDROGEN CONTENT (%mass)	13.65
HUMIDITY (kg water/kg dry air)	0.0038	0.0062	AROMATICS CONTENT (%vol)	17.5
			NAPHTHALENE CONTENT (%vol)	0.22
			SULPHUR CONTENT (ppm by mass)	78

MANUFACTURER: General Electric Company
TEST ORGANIZATION: General Electric Company
TEST LOCATION: PTO, Ohio
TEST DATES: 11/02/2017

REMARKS

- GE Aviation Report R2019AE437/Rev. 0
- Engine S/N 707-368