



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5C2
UNIQUE ID NUMBER: 1CM010
ENGINE TYPE: MTF

BYPASS RATIO: 6.8
PRESSURE RATIO (π_{oo}): 28.8
RATED OUTPUT (F_{oo}) (kN): 138.78

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	11.6	57.9	59.0	14.3
AS % OF ORIGINAL LIMIT	59.4 %	49.1 %	60.5 %	66.0 %
AS % OF CAEP/2 LIMIT (NOx)			75.6 %	
AS % OF CAEP/4 LIMIT (NOx)			90.7 %	
AS % OF CAEP/6 LIMIT (NOx)			103.0 %	
AS % OF CAEP/8 LIMIT (NOx)			121.8 %	

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	1.308	0.008	0.93	32.6	11.1
CLIMB OUT	85	2.2	1.076	0.008	0.8	25.8	8.5
APPROACH	30	4.0	0.356	0.082	1.75	10	1
IDLE	7	26.0	0.118	5.68	34	4.19	1.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			466	1050	6546	7077	-
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)				7.56	47.2	50.9	11.1
SIGMA (D_p/F_{oo} in g/kN, or SN)				0.59	1.71	0.04	1.6
RANGE (D_p/F_{oo} in g/kN, or SN)				6.90-8.01	45.4-48.8	50.89-50.96	9.3-12.1

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.77-98.11
TEMPERATURE (K)	286 - 295
ABS HUMIDITY (kg/kg)	.0061-.0074

FUEL

SPEC	Jet A
H/C	1.95
AROM (%)	17.3

MANUFACTURER: CFMI
TEST ORGANIZATION: CFM56 Evaluation Engineering
TEST LOCATION: PTO Site IVD
TEST DATES: FROM 04 Jun 91 TO 05 Jun 91

REMARKS

1. Ref GE Report R91AEB471.
2. Engine S/N 740-105.
3. Core engine Smoke Numbers reported

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

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