



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B9/P
UNIQUE ID NUMBER: 7CM049
ENGINE TYPE: TF
BYPASS RATIO: 5.9
PRESSURE RATIO (π_{oo}): 24
RATED OUTPUT (F_{oo}) (kN): 102.2

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	14.4	59.7	43.9	6.9
AS % OF ORIGINAL LIMIT	73.5 %	50.6 %	49.9 %	29.3 %
AS % OF CAEP/2 LIMIT (NOx)			62.4 %	
AS % OF CAEP/4 LIMIT (NOx)			76.5 %	
AS % OF CAEP/6 LIMIT (NOx)			86.9 %	
AS % OF CAEP/8 LIMIT (NOx)			105.4 %	

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	0.954	0.1	0.8	21.4	5.4
CLIMB OUT	85	2.2	0.794	0.1	0.8	17.9	2.1
APPROACH	30	4.0	0.280	0.8	3.7	8.8	0.3
IDLE	7	26.0	0.098	5.9	30.4	3.6	0.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			365	970	5012	3875	-
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)				9.4	48.7	37.9	5.4
SIGMA (D_p/F_{oo} in g/kN, or SN)				-	-	-	-
RANGE (D_p/F_{oo} in g/kN, or SN)				-	-	-	-

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.2 - 99.6
TEMPERATURE (K)	281.5 - 283.6
ABS HUMIDITY (kg/kg)	0.0065 - 0.0075

FUEL

SPEC	Jet A
H/C	1.92
AROM (%)	19

MANUFACTURER: CFM International
TEST ORGANIZATION: CFM56 Evaluation Engineering
TEST LOCATION: Techspace Aero, Liege, Belgium
TEST DATES: FROM 13 Nov 95 TO -

REMARKS

- FAA Certification Report CR 0797/P, June 1995 and Certification Report CR-700 S3, October 2001
- Engine S/N 779-194/1

If REVISED, this data supersedes databank UID
Compliance with fuel venting requirements: 0 ('x' if complies, PR if pre-regulation)