



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION:LEAP-1A35A/33/33B2/32/30

BYPASS RATIO:10.5 to 10.8

UNIQUE ID NUMBER:17CM083

PRESSURE RATIO ( $\pi_{oo}$ ):38.6

ENGINE TYPE:TF

RATED OUTPUT ( $F_{oo}$ ) (kN):143.1

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D <sub>p</sub> /F <sub>oo</sub> (g/kN) or SN	0.4	23.6	46.3	1.9
AS % OF ORIGINAL LIMIT	1.8 %	20.0 %	39.5 %	8.8 %
AS % OF CAEP/2 LIMIT (NOx)			49.4 %	
AS % OF CAEP/4 LIMIT (NOx)			55.0 %	
AS % OF CAEP/6 LIMIT (NOx)			60.8 %	
AS % OF CAEP/8 LIMIT (NOx)			68.8 %	

DATA STATUS

-PRE-REGULATION

xCERTIFICATION

-REVISED (SEE REMARKS)

TEST ENGINE STATUS

xNEWLY MANUFACTURED ENGINES

xDEDICATED ENGINES TO PRODUCTION STANDARD

-OTHER (SEE REMARKS)

EMISSIONS STATUS

xDATA 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 <sub>oo</sub> )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	1.058	0.05	0.3	54.13	1.105
CLIMB OUT	85	2.2	0.864	0.02	0.23	19.53	1.17
APPROACH	30	4.0	0.282	0.04	1.86	9.82	1.31
IDLE	7	26.0	0.096	0.22	18.69	4.85	1.25
LTO TOTAL FUEL (kg) or EMISSIONS (g)			376	40	2964	6024	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D <sub>p</sub> /F <sub>oo</sub> (g/kN) or AVERAGE SN (MAX)				0.28	20.71	42.1	1.6
SIGMA (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)				0.03	1.03	1.35	0.15
RANGE (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)				0.23 to 0.3	19.48 to 21.71	40.43 to 43.42	1.47 to 1.82

ACCESSORY LOADS

POWER EXTRACTION0(kW)ATALLPOWER SETTINGS

STAGE BLEED0% CORE FLOWATALLPOWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.8 to 98.8
TEMPERATURE (K)	274.6 to 279.8
ABS HUMIDITY (kg/kg)	.0020 to .0032

FUEL

SPEC	JET A
H/C	1.9
AROM (%)	16.5

MANUFACTURER:GE Aviation

TEST ORGANIZATION:GE Aviation

TEST LOCATION:PTO, Ohio, USA

TEST DATES:FROM21 Nov 16TO02 Dec 16

REMARKS

1. Ref. REPORT CRL 2201\_1/Rev. 0
2. Engine S/N 600-104, 600-105
3. SMOKE NUMBER for each LTO mode is average of max SN for test points around that power setting
4. AVERAGE SN (MAX) is average of maximum smoke number measured from all points on each run
5. Certification in accordance with Part III, Chapter 2, of Amendment 8 of ICAO Annex 16 Vol. II.
6. 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)