



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: ALF 502R-5
UNIQUE ID NUMBER: 1TL003
COMBUSTOR:
ENGINE TYPE: TF
BYPASS RATIO: 5.6
PRESSURE RATIO (π_{00}): 12.0
RATED THRUST (F_{00}) (kN): 31.0

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	13.6	97.8	34.8	16.9
AS % OF ORIGINAL LIMIT	69.4	82.9	54.4	51.8
AS % OF CAEP/2 LIMIT (NO _x)			68.0	
AS % OF CAEP/4 LIMIT (NO _x)			69.1	
AS % OF CAEP/6 LIMIT (NO _x)			69.6	
AS % OF CAEP/8 LIMIT (NO _x)			74.1	

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 (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO _x	SMOKE NUMBER
TAKE-OFF	100	0.7	0.358	0.06	0.30	13.35	13.5
CLIMB OUT	85	2.2	0.296	0.05	0.25	10.56	12.7
APPROACH	30	4.0	0.103	0.22	7.10	6.60	5.7
IDLE	7	26.0	0.041	5.39	40.93	3.78	2.3
LTO TOTAL FUEL (kg) or EMISSIONS (g)			143	351	2796	1017	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				11.7	90.4	32.9	15.4
SIGMA (D _p /F ₀₀ in g/kN, or SN)							
RANGE (D _p /F ₀₀ in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW)
STAGE BLEED 20 (% CORE FLOW)

AT - POWER SETTINGS
AT 8.81kN POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.3-102.4
TEMPERATURE (K)	288-293
ABS HUMIDITY (kg/kg)	0.0088-0.0108

FUEL

SPEC	0.81
H/C	1.92
AROM (%)	19.7

MANUFACTURER: Textron Lycoming
TEST ORGANIZATION: Textron Lycoming
TEST LOCATION: Stratford, CT
TEST DATES: 26/07/1982-21/09/1982

REMARKS

1. Calculated using L-2 and R-3 data + L5 performance

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)