



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: ALF 502R-3 BYPASS RATIO: 5.7
UNIQUE ID NUMBER: 1TL002 PRESSURE RATIO (π_{00}): 11.4
COMBUSTOR:
ENGINE TYPE: TF RATED THRUST (F_{00}) (kN): 29.8

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	17.5	117.9	32.5	14.3
AS % OF ORIGINAL LIMIT	89.3	99.9	51.8	43.4
AS % OF CAEP/2 LIMIT (NO _x)			64.7	
AS % OF CAEP/4 LIMIT (NO _x)			65.5	
AS % OF CAEP/6 LIMIT (NO _x)			65.8	
AS % OF CAEP/8 LIMIT (NO _x)			69.8	

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 (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	0.348	0.06	0.43	11.20	12.6
CLIMB OUT	85	2.2	0.288	0.05	0.50	9.94	12.0
APPROACH	30	4.0	0.103	0.29	8.43	6.15	5.5
IDLE	7	26.0	0.043	6.51	44.67	3.30	2.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			145	449	3244	915	-
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)				15.0	109.0	30.7	13.0
SIGMA (D _p /F ₀₀ in g/kN, or SN)				3.3	10.6	0.8	2.4
RANGE (D _p /F ₀₀ in g/kN, or SN)				11.9-18.4	100.2-120.8	29.9-31.45	10.2-14.4

ACCESSORY LOADS

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

AT - POWER SETTINGS
AT 8.41kN 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: 07/09/1982-20/09/1982

REMARKS

Compliance with Fuel Venting requirements:

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