



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: TFE731-3  
UNIQUE ID NUMBER: 1AS002  
COMBUSTOR:  
ENGINE TYPE: TF  
BYPASS RATIO: 2.6  
PRESSURE RATIO ( $\pi_{00}$ ): 14.3  
RATED THRUST ( $F_{00}$ ) (kN): 16.5

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	27.4	147.3	54.0	
AS % OF ORIGINAL LIMIT	139.8	124.8	78.7	
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			98.4	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			94.7	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			93.4	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			96.0	

### DATA STATUS

x PRE-REGULATION  
- CERTIFICATION  
x REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
- DEDICATED ENGINES TO PRODUCTION STANDARD  
- OTHER (SEE REMARKS)

### EMISSIONS STATUS

- 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 <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
TAKE-OFF	100	0.7	0.225	0.06	1.13	19.15	
CLIMB OUT	85	2.2	0.186	0.07	1.62	16.02	
APPROACH	30	4.0	0.072	1.41	15.56	6.92	
IDLE	7	26.0	0.026	9.04	47.70	3.72	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			92	393	2254	845	-
NUMBER OF ENGINES				4	4	4	
NUMBER OF TESTS				4	4	4	
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				24.0	137.7	51.4	
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				19-25	133-147	47-55	

### ACCESSORY LOADS

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

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97-97.3
TEMPERATURE (K)	294-313
ABS HUMIDITY (kg/kg)	0.0039-0.0073

### FUEL

SPEC	ASTM D1655-73T
H/C	
AROM (%)	17

MANUFACTURER: Allied Signal  
TEST ORGANIZATION: Allied Signal  
TEST LOCATION: Phoenix  
TEST DATES: 01/02/1976-01/08/1976

### REMARKS

1. Not required to meet GASEOUS regulations

Compliance with Fuel Venting requirements:

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