



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: TFE731-3  
UNIQUE ID NUMBER: 1AS002  
ENGINE TYPE: TF

BYPASS RATIO: 2.64  
PRESSURE RATIO ( $\pi_{oo}$ ): 14.3  
RATED OUTPUT ( $F_{oo}$ ) (kN): 16.5

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{oo}$ (g/kN) or SN	27.4	147.3	54.0	-
AS % OF ORIGINAL LIMIT	139.8 %	124.8 %	78.7 %	#VALUE!
AS % OF CAEP/2 LIMIT (NOx)			98.4 %	
AS % OF CAEP/4 LIMIT (NOx)			94.7 %	
AS % OF CAEP/6 LIMIT (NOx)			93.4 %	
AS % OF CAEP/8 LIMIT (NOx)			96.0 %	

### DATA STATUS

x PRE-REGULATION  
- CERTIFICATION  
- 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

### 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	0.225	0.062	1.13	19.15	-
CLIMB OUT	85	2.2	0.186	0.072	1.62	16.02	-
APPROACH	30	4.0	0.072	1.41	15.56	6.92	-
IDLE	7	26.0	0.026	9.04	47.7	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 $D_p/F_{oo}$ (g/kN) or AVERAGE SN (MAX)				24	137.7	51.4	-
SIGMA ( $D_p/F_{oo}$ in g/kN, or SN)				-	-	-	-
RANGE ( $D_p/F_{oo}$ in g/kN, or SN)				19-25	133-147	47-55	-

### ACCESSORY LOADS

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

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.0-97.3
TEMPERATURE (K)	294 - 313
AHS HUMIDITY (kg/kg)	.0039-.0073

### FUEL

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

MANUFACTURER: Allied Signal  
TEST ORGANIZATION: Allied Signal  
TEST LOCATION: Phoenix  
TEST DATES: FROM Feb 76 TO Aug 76

### REMARKS

Not required to meet GASEOUS regulations

If REVISED, this data supersedes databank UID  
Compliance with fuel venting requirements:

0 ('x' if complies, PR if pre-regulation)