



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: V2533-A5 BYPASS RATIO: 4.46  
 UNIQUE ID NUMBER: 3IA008 PRESSURE RATIO ( $\pi_{00}$ ): 33.44  
 ENGINE TYPE: MTF RATED OUTPUT ( $F_{00}$ ) (kN): 140.56

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{00}$ (g/kN) or SN	0.4	19.6	71.4	11.6
AS % OF ORIGINAL LIMIT	2.0 %	16.6 %	66.8 %	53.8 %
AS % OF CAEP/2 LIMIT (NOx)			83.5 %	
AS % OF CAEP/4 LIMIT (NOx)			96.6 %	
AS % OF CAEP/6 LIMIT (NOx)			108.4 %	
AS % OF CAEP/8 LIMIT (NOx)			125.3 %	

### 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)  
 - OUT OF PRODUCTION  
 - OUT OF SERVICE

### MEASURED DATA

MODE	POWER SETTING (% $F_{00}$ )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	1.426	0.047	0.463	36.48	4.7
CLIMB OUT	85	2.2	1.145	0.043	0.515	28.67	6.2
APPROACH	30	4.0	0.390	0.052	1.65	10.83	4.8
IDLE	7	26.0	0.136	0.1	9.317	5.24	2.4
LTO TOTAL FUEL (kg) or EMISSIONS (g)			517	35	2241	8646	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE $D_p/F_{00}$ (g/kN) or AVERAGE SN (MAX)				0.25	16	61.6	9
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) AT - POWER SETTINGS  
 STAGE BLEED 4.5 % CORE FLOW AT 7 POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.0-101.8
TEMPERATURE (K)	288-296
ABS HUMIDITY (kg/kg)	.0086-.0114

### FUEL

SPEC	Jet A
H/C	-
AROM (%)	-

MANUFACTURER: International Aero Engines  
 TEST ORGANIZATION: Pratt & Whitney  
 TEST LOCATION: East Hartford, CT, USA  
 TEST DATES: FROM 12 Aug 92 TO 13 Aug 92

### REMARKS

1. Engine Type description originally wrongly given as TF; amended in Issue 15 to MTF

If REVISED, this data supersedes databank UID  
 Compliance with fuel venting requirements: 0 ('x' if complies, PR if pre-regulation)