



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PS-90A2  
UNIQUE ID NUMBER: 13AA008  
COMBUSTOR: 93-03-800  
ENGINE TYPE: MTF

BYPASS RATIO: 4.3  
PRESSURE RATIO ( $\pi_{00}$ ): 31.2  
RATED THRUST ( $F_{00}$ ) (kN): 157.0

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	6.8	35.1	55.4	17.6
AS % OF ORIGINAL LIMIT	34.7	29.7	54.5	0.8
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			68.1	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			80.7	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			91.7	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			105.4	

### 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 (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	1.380	0.11	0.44	32.70	15.5
CLIMB OUT	85	2.2	1.117	0.14	0.65	25.52	16.2
APPROACH	30	4.0	0.491	0.21	1.91	9.31	12.1
IDLE	7	26.0	0.171	2.88	16.79	4.30	1.2
LTO TOTAL FUEL (kg) or EMISSIONS (g)			590	820	4825	7902	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				5.2	30.8	50.3	16.2
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				0.0	0.0	0.0	0.0
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				4.98-5.55	28.46-31.84	46.7-53.6	14.75-17.96

### ACCESSORY LOADS

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

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.8-101
TEMPERATURE (K)	275-297.5
ABS HUMIDITY (kg/kg)	0.00267-0.0129

### FUEL

SPEC	TS-1
H/C	1.95
AROM (%)	14.3

MANUFACTURER: Aviadvigatel  
TEST ORGANIZATION: OJSC Aviadvigatel  
TEST LOCATION: Perm City  
TEST DATES: 05/06/2006-27/06/2006

### NO<sub>x</sub> REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
x	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

### REMARKS

1. NO<sub>x</sub> levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements:

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