



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PS-90A  
UNIQUE ID NUMBER: 13AA006  
COMBUSTOR: 94-03-809  
ENGINE TYPE: MTF

BYPASS RATIO: 4.5  
PRESSURE RATIO ( $\pi_{00}$ ): 30.8  
RATED THRUST ( $F_{00}$ ) (kN): 154.6

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	4.7	33.0	57.4	8.6
AS % OF ORIGINAL LIMIT	23.8	28.0	56.5	40.9
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			70.6	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			83.7	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			94.8	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			111.0	

### DATA STATUS

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

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
x 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	1.532	0.10	0.41	30.52	6.8
CLIMB OUT	85	2.2	1.279	0.13	0.45	23.33	7.8
APPROACH	30	4.0	0.511	0.79	1.20	8.96	5.1
IDLE	7	26.0	0.168	1.32	15.18	4.92	0.2
LTO TOTAL FUEL (kg) or EMISSIONS (g)			617	470	4216	8287	-
NUMBER OF ENGINES				4	4	4	4
NUMBER OF TESTS				4	4	4	4
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				3.0	27.3	53.6	7.8
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)				1.64-6.61	25.44-30.3	52.25-54.81	6.84-9.37

### ACCESSORY LOADS

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

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.8-98.7
TEMPERATURE (K)	289.2-294.8
ABS HUMIDITY (kg/kg)	0.00595-0.01297

### FUEL

SPEC	TS-1
H/C	1.95
AROM (%)	14.9

MANUFACTURER: Aviadvigatel  
TEST ORGANIZATION: OJSC Aviadvigatel  
TEST LOCATION: Perm City  
TEST DATES: 05/07/2007-30/08/2007

### 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)