



# ICAO ENGINE EXHAUST EMISSIONS DATA BANK

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: NK-8-2U  
UNIQUE ID NUMBER: 1KK001  
ENGINE TYPE: MTF

BYPASS RATIO: 1.24  
PRESSURE RATIO ( $\pi_{00}$ ): 10.8  
RATED OUTPUT ( $F_{00}$ ) (kN): 103

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
$D_p/F_{00}$ (g/kN) or SN	505.1	532.0	49.0	30.2
AS % OF ORIGINAL LIMIT	2,577.2 %	450.8 %	79.6 %	128.8 %
AS % OF CAEP/2 LIMIT (NOx)			99.5 %	
AS % OF CAEP/4 LIMIT (NOx)			135.2 %	
AS % OF CAEP/6 LIMIT (NOx)			153.6 %	
AS % OF CAEP/8 LIMIT (NOx)			212.3 %	

### DATA STATUS

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

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
- DEDICATED ENGINES TO PRODUCTION STANDARD  
x 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 (% $F_{00}$ )	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	1.750	0.45	5.5	13.9	-
CLIMB OUT	85	2.2	1.170	0.55	6	12.9	-
APPROACH	30	4.0	0.580	5	21	5.4	-
IDLE	7	26.0	0.240	103.8	116	2.7	-
LTO TOTAL FUEL (kg) or EMISSIONS (g)			742	39677	47684	4776	-
NUMBER OF ENGINES				2	2	2	-
NUMBER OF TESTS				2	2	2	-
AVERAGE $D_p/F_{00}$ (g/kN) or AVERAGE SN (MAX)				388.2	466.9	44.6	23.5
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)  
STAGE BLEED 0 % CORE FLOW

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	102.6
TEMPERATURE (K)	300
ABS HUMIDITY (kg/kg)	0.00876

### FUEL

SPEC	TS-1
H/C	2
AROM (%)	19

MANUFACTURER: KKBM  
TEST ORGANIZATION: State Inst for Civ Aviation  
TEST LOCATION: Sheremetjevo, Moscow  
TEST DATES: FROM 12 Jul 89 TO -

### REMARKS

1. Data obtained on aircraft (Tu-154A)
2. In-service engine(s), tested after overhaul

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

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