ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: D-36   BYPASS RATIO: 5
UNIQUE ID NUMBER: 1ZM001   PRESSURE RATIO (π_{oo}): 19.9
ENGINE TYPE: TF   RATED OUTPUT (F_{oo}) (kN): 63.765

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	14.0	52.8	59.6	17.4
AS % OF ORIGINAL LIMIT	71.4 %	44.7 %	74.7 %	64.8 %
AS % OF CAEP/2 LIMIT (NOx)			93.4 %	
AS % OF CAEP/4 LIMIT (NOx)			106.2 %	
AS % OF CAEP/6 LIMIT (NOx)			113.6 %	
AS % OF CAEP/8 LIMIT (NOx)			129.8 %	

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)
- 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) HC	CO	NOx	SMOKE NUMBER
TAKE-OFF	100	0.7	0.634	0	0.5	26	14.8
CLIMB OUT	85	2.2	0.533	0	0.4	22	–
APPROACH	30	4.0	0.211	0	2.7	9	–
IDLE	7	26.0	–	5.4	20.7	5.5	–
LTO TOTAL FUEL (kg) or EMISSIONS (g)	0			0	0	0	–
NUMBER OF ENGINES				3	3	3	2
NUMBER OF TESTS				7	7	7	3
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				12	48.8	56.3	14.8
SIGMA (D_p/F_{oo} in g/kN, or SN)				0.8	3	2.5	–
RANGE (D_p/F_{oo} in g/kN, or SN)				11.2-13	46.2-52	54.5-59	–

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99.9-101.5
TEMPERATURE (K)	268 - 295
ABS HUMIDITY (kg/kg)	0.0017-0.0083

FUEL

SPEC	RT
H/C	1.95
AROM (%)	18.5

MANUFACTURER: ZMKB
TEST ORGANIZATION: ZMKB
TEST LOCATION: Zaporoje
TEST DATES: FROM 17 May 84   TO 10 Dec 84

REMARKS

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