



ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: V2533-A5 SelectOne™ Upgrade BYPASS RATIO: 4.5
UNIQUE ID NUMBER: 10IA017 PRESSURE RATIO (π_{oo}): 33.7
ENGINE TYPE: MTF RATED OUTPUT (F_{oo}) (kN): 140.6

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	0.3	20.7	65.5	11.1
AS % OF ORIGINAL LIMIT	1.8 %	17.6 %	61.0 %	51.3 %
AS % OF CAEP/2 LIMIT (NOx)			76.3 %	
AS % OF CAEP/4 LIMIT (NOx)			88.1 %	
AS % OF CAEP/6 LIMIT (NOx)			98.7 %	
AS % OF CAEP/8 LIMIT (NOx)			113.9 %	

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_{oo})	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NOx	
TAKE-OFF	100	0.7	1.433	0.01	0.38	35.43	2
CLIMB OUT	85	2.2	1.142	0.02	0.41	25.65	5.8
APPROACH	30	4.0	0.405	0.06	1.54	11.24	6.4
IDLE	7	26.0	0.147	0.12	10.12	5.6	1.3
LTO TOTAL FUEL (kg) or EMISSIONS (g)			537	38	2555	8377	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				0.3	18.2	59.6	9.4
SIGMA (D_p/F_{oo} in g/kN, or SN)				-	-	-	-
RANGE (D_p/F_{oo} in g/kN, or SN)				-	-	-	-

ACCESSORY LOADS

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

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.35-102.88
TEMPERATURE (K)	268.2-277.7
ABS HUMIDITY (kg/kg)	0.00140-0.00359

FUEL

SPEC	JET A
H/C	1.91
AROM (%)	17

MANUFACTURER: IAE International Aero Engines
TEST ORGANIZATION: Pratt & Whitney
TEST LOCATION: East Hartford, CT
TEST DATES: FROM 11 Dec 08 TO 19 Jan 09

REMARKS

- Engine performance reflects new SelectOne™ package upgrades.
- Certification in accordance with Part III, Chapter 2, of Amendment 6 of ICAO Annex 16 Vol. II.
- NOx levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

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

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