

DOCKET NO.: SA-519
EXHIBIT NO. 8D

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

POWERPLANTS GROUP CHAIRMAN'S FACTUAL REPORT
JT8D-217C SN 718427 TEST CELL PERFORMANCE DATA

American Airlines flight 1420
Little Rock, Arkansas
June 1, 1999

DCA99MA060

 American Airlines
 Trend Analysis Data
 Test Log No. 5
 JT8D-217C
 V.1.37.01

TEST CELL CORR. FACTORS: ESO REV.

S/N-DATE-TC : 718427-06/09/99-TC1

RACK NUMBER: R275S REPAIR STANDARD: HEAVY MAINTENANCE TOTAL RUN TIME 7.23 MM.SS

BARE NON-MAPS FUEL CONSUMED 18 GALS DEW POINT 69 F

OPERATOR: JD BLACKFORD
 OBSERVER: M ROSA

POWER POINT TEST POINT NO. SAMPLE TIME	GRD IDLE #0 13:52:00	FLT IDLE #2 13:52:46	MAX CRZ #4 13:54:40	MAX CON #5 13:56:01	NORM T/O #6 13:56:22
PBAR	PSIA 14.372	14.371	14.371	0.000	0.000
TT2	DEG F 86.2	85.5	86.4	0.0	0.0
TT4C / TT3C	RATIO -1.075	-1.337	-1.684	0.0000	0.0000
TT7C / TT4C	RATIO -1.561	-1.280	-1.340	0.0000	0.0000
PS3.2	IN.HGA 38.83	117.38	198.21	0.00	0.00
PS4 ABS.	IN.HGA 29.30	28.96	28.28	0.00	0.00
EGT CORRECTED	DEG F 734	749	986	0	0
THRUST CORR.	LBS 838	8750	20075	0	0
WF CORRECTED	PPH 924	4569	10405	0	0
SPEC FUEL CONSUMP	RATIO 1.102	0.523	0.518	0.000	0.000
EPR AVG	RATIO 1.010	1.360	1.938	0.0000	0.0000
N1 FULL CORRECTED	RPM 2009	5714	7491	0	0
N2 FULL CORRECTED	RPM 6239	10267	11507	0	0
N1/N2 SPEED RATIO	RATIO 0.3221	0.5566	0.6510	0.0000	0.0000
LP COMP PS3.2/PT2	RATIO 1.305	4.071	6.962	0.0000	0.0000
HP COMP PS4/PS3.2	RATIO 0.7545	0.2467	0.1428	0.0000	0.0000
PS4/PT7	RATIO 0.9753	0.7373	0.5128	0.0000	0.0000
TURB. COOLING AIR	RATIO 1.459	5.798	10.80	0.0000	0.0000
PBR	PSIG 0.0447	0.2227	0.4268	0.0000	0.0000
MOP	PSIG 46.8	50.2	51.0	0.0	0.0
WAT	0.0000	0.0000	0.0000	0.0000	0.0000
WAE	0.0000	0.0000	0.0000	0.0000	0.0000

APPENDIX 3

PT4	PSIA	14.39	14.41	14.39	14.40	14.42	0.00	0.00	0.00	0.00
PT4	IN.HG	0.03	0.07	0.04	0.06	0.09	0.00	0.00	0.00	0.00
PT4	IN.HGA	29.29	29.33	29.30	29.32	29.35	0.00	0.00	0.00	0.00
PT6	PSIG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PT6	PSIA	14.40	14.40	14.40	14.41	14.42	0.00	0.00	0.00	0.00
PT6	IN.HG	0.06	0.06	0.06	0.07	0.10	0.00	0.00	0.00	0.00
PT6	IN.HGA	29.32	29.32	29.32	29.33	29.35	0.00	0.00	0.00	0.00
PT7	PSIG	0.4	0.9	4.9	12.8	12.7	0.0	0.0	0.0	0.0
PT7	PSIA	14.75	15.29	19.27	27.13	27.10	0.00	0.00	0.00	0.00
PT7	IN.HG	0.77	1.87	9.98	25.98	25.92	0.00	0.00	0.00	0.00
PT7	IN.HGA	30.04	31.14	39.24	55.24	55.18	0.00	0.00	0.00	0.00
PB (BURNER)	PSIG	15.6	34.5	123.4	234.1	234.3	0.0	0.0	0.0	0.0
PB (BURNER)	PSIGA	29.93	48.89	137.75	248.57	248.78	0.00	0.00	0.00	0.00
PB (BURNER)	IN.HG	31.68	70.28	251.21	476.83	477.26	0.00	0.00	0.00	0.00
PB (BURNER)	IN.HGA	60.94	99.54	280.47	506.09	506.52	0.00	0.00	0.00	0.00
PCP	PSIG	6.6	16.1	68.1	137.3	135.6	0.0	0.0	0.0	0.0
PCP	PSIA	20.99	30.49	82.46	151.73	150.09	0.00	0.00	0.00	0.00
PCP	IN.HG	13.47	32.81	138.64	279.67	276.32	0.00	0.00	0.00	0.00
PCP	IN.HGA	42.74	62.07	167.90	308.93	305.58	0.00	0.00	0.00	0.00
PCP	IN.H2O	183.18	446.04	*84.78	*82.20	*56.69	0.00	0.00	0.00	0.00
PBR	PSIG	0.0447	0.0830	0.2227	0.3866	0.4268	0.0000	0.0000	0.0000	0.0000
WF CORRECTED / BP	RATIO	30.85	28.41	33.20	42.56	41.81	0.0000	0.0000	0.0000	0.0000
VIB INLET 40HZ HP	MILS	0.08	0.30	0.54	1.03	1.02	0.00	0.00	0.00	0.00
VIB REAR 40HZ HP	MILS	0.67	0.92	0.81	1.53	1.51	0.00	0.00	0.00	0.00
VIB INL. 155HZ HP	MILS	0.03	0.10	0.24	0.77	0.72	0.00	0.00	0.00	0.00
VIB REAR 155HZ HP	MILS	0.20	0.19	0.42	0.94	0.90	0.00	0.00	0.00	0.00
VIB INLET N1 TRAC	MILS	0.07	0.25	0.39	0.58	0.53	0.00	0.00	0.00	0.00
VIB INLET N1 TRAC	RPM	1871	2921	5674	7489	7497	0	0	0	0
MAX INLET N1 TRAC	MILS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N10MX INL N1 TRAC	RPM	0	0	0	0	0	0	0	0	0
N20MX INL N1 TRAC	RPM	0	0	0	0	0	0	0	0	0
VIB REAR N1 TRAC	MILS	0.35	0.34	0.41	1.27	1.11	0.00	0.00	0.00	0.00
VIB REAR N1 TRAC	RPM	10054	15118	15376	15376	15376	0	0	0	0
MAX REAR N1 TRACK	MILS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N10MX RR N1 TRACK	RPM	0	0	0	0	0	0	0	0	0
N20MX RR N1 TRACK	RPM	0	0	0	0	0	0	0	0	0
VIB INLET N2 TRAC	MILS	0.00	0.07	0.18	0.59	0.56	0.00	0.00	0.00	0.00
VIB INLET N2 TRAC	RPM	6196	7958	10383	11586	11634	0	0	0	0
MAX INLET N2 TRAC	MILS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N10MX INL N2 TRAC	RPM	0	0	0	0	0	0	0	0	0
N20MX INL N2 TRAC	RPM	0	0	0	0	0	0	0	0	0
VIB REAR N2 TRAC	MILS	0.54	0.13	0.33	0.43	0.38	0.00	0.00	0.00	0.00
VIB REAR N2 TRAC	RPM	6187	7949	10368	11573	11621	0	0	0	0
MAX REAR N2 TRACK	MILS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N10MX RR N2 TRACK	RPM	0	0	0	0	0	0	0	0	0
N20MX RR N2 TRACK	RPM	0	0	0	0	0	0	0	0	0
OIL IN TEMP	DEG C	59	60	64	66	70	0	0	0	0
OEC OIL QUANTITY	QUARTS	19.2	19.8	20.3	20.3	20.8	0.0	0.0	0.0	0.0
MOP	PSIG	46.8	49.2	50.2	50.9	51.0	0.0	0.0	0.0	0.0
POWER LEVER ANGLE	DEG	15.7	15.7	-9.3	54.5	54.7	0.0	0.0	0.0	0.0
FUEL SG	RATIO	0.8001	0.8001	0.8001	0.8002	0.8002	0.0000	0.0000	0.0000	0.0000
FUEL DENSITY	LB/GAL	6.659	6.659	6.659	6.660	6.660	0.0000	0.0000	0.0000	0.0000

Appendix 3

=====
 | STANDARD DAY PERFORMANCE DATA — WITH CELL CORRECTION |
 =====

POWER POINT TEST POINT NO. SAMPLE TIME	GRD IDLE #0	PART PWR #1	FLT IDLE #2	GRD IDLE #3	MAX CRZ #4	MAX CON #5	NORM T/O #6	MAX T/O #7	GRD IDLE #8
	13:52:00	13:52:46	13:54:40	13:56:01	13:56:22	00:00:00	00:00:00	00:00:00	00:00:00
THRUST CORR.	LBS	838	1945	8750	20096	20075	0	0	0
WF CORRECTED	PPH	924	1388	4569	10585	10405	0	0	0
N1 FULL CORRECTED	RPM	2009	2986	5714	7491	7491	0	0	0
N2 FULL CORRECTED	RPM	6239	7933	10267	11467	11507	0	0	0
EGT CORRECTED	DEG F	734	657	749	900	986	0	0	0
TT7C / 519	DEG F	1.41	1.27	1.44	1.89	1.90	0.00	0.00	0.00
PT3.2/PT2	RATIO	0.9854	1.002	1.018	1.030	1.031	0.0000	0.0000	0.0000
PT4/PT2	RATIO	0.9847	1.002	1.017	1.029	1.030	0.0000	0.0000	0.0000
PT6/PT7	RATIO	0.9761	0.9417	0.7473	0.5307	0.5318	0.0000	0.0000	0.0000
LP COMP PS3.2/PT2	RATIO	1.305	1.644	4.071	6.996	6.962	0.0000	0.0000	0.0000
HP COMP PS4/PS3.2	RATIO	0.7545	0.6108	0.2467	0.1437	0.1428	0.0000	0.0000	0.0000
PS4/PT7	RATIO	0.9753	0.9436	0.7373	0.5183	0.5128	0.0000	0.0000	0.0000
PS4/PT2	RATIO	0.9848	1.004	1.004	1.005	0.9939	0.0000	0.0000	0.0000
N1/N2 SPEED RATIO	RATIO	0.3221	0.3763	0.5566	0.6533	0.6510	0.0000	0.0000	0.0000
TURB. COOLING AIR	RATIO	1.459	2.112	5.798	10.79	10.00	0.0000	0.0000	0.0000
TOTAL AIRFLOW	PPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CORE AIRFLOW	PPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPEC FUEL CONSUMP	RATIO	1.102	0.714	0.523	0.526	0.518	0.000	0.000	0.000

TEST CELL CORR. FACTORS:ESD REV.

American Airlines
Acceptance
Test Log No. 2
JT8D-217C
Extrapolated and Corrected Data
V.1.37.01

TEST CELL CORR. FACTORS:ESD REV.

S/N-DATE-TC : 718427-06/09/99-TC1

RACK NUMBER: R275S REPAIR STANDARD: HEAVY MAINTENANCE TOTAL RUN TIME 9.04 MIN. SS

BARE NON-MAPS FUEL CONSUMED 54 GALS DEW POINT 69 F

OPERATOR: JD BLACKFORD

OBSERVER: M ROSA

POWER POINT TEST POINT NO. SAMPLE TIME	GRD IDLE #0 13:52:00	<i>FLT IDLE</i> PART PWR #1 13:52:46	<i>Rev. Thrust</i> FLT IDLE #2 13:54:40	<i>T/O</i> GRD IDLE #3 13:56:01	<i>T/O</i> MAX CRZ #4 13:56:22	MAX CON #5 00:00:00	NORM T/O #6 00:00:00	MAX T/O #7 00:00:00	GRD IDLE #8 00:00:00
--	----------------------------	---	--	--	---	---------------------------	----------------------------	---------------------------	----------------------------

+-----+
| EGT Margins |
+-----+

EGT MARGIN-MX T/O	DEG F								0
EGT MARGIN- T/O	DEG F						0		
EGT MARGIN- M/C	DEG F					0			
EGT MARGIN- CRZ	DEG F				-14				
EGT CORRECTED	DEG F	734	657	749	900	906	0	0	0
EGT LIMIT	DEG F	599	622	749	906	905	0	0	0

+-----+
| TSFC at Min Thrust |
+-----+

20000 LBS (T/O)	RATIO						0.000		
18000 LBS (MC)	RATIO								
16400 LBS (CRZ)	RATIO				0.481		0.000		

+-----+
| EPR/THRUST MARGIN |
+-----+

EPR/FNC MARGIN	LBS					0	0	0	0
EPR/FNC CAPTURED	LBS					0	0	0	0
EPR/FNC HI LIMIT	LBS					0	0	0	0
EPR/FNC LO LIMIT	LBS					0	0	0	0

APPENDIX 3

American Airlines
Acceptance
Test Log No. 3
JT8D-217C
Performance Data
V.1.37.01

TEST CELL CORR. FACTORS:ESD REV.

S/N-DATE-TC : 718427-06/09/99-TC1

RACK NUMBER:	R2755	REPAIR STANDARD:	HEAVY MAINTENANCE	TOTAL RUN TIME	7.23 MM. SS
BARE NON-MAPS		FUEL CONSUMED	18 GALS	DEW POINT	69 F
OPERATOR:		JD BLACKFORD			
OBSERVER:		M ROSA			

+=====+
| MISC. PARAMETERS |
+=====+

POWER POINT TEST POINT NO. SAMPLE TIME		GRD IDLE #0 13:52:00	PART PWR #1 13:52:46	FLT IDLE #2 13:54:40	GRD IDLE #3 13:56:01	MAX CRZ #4 13:56:22	MAX CON #5 00:00:00	NORM T/O #6 00:00:00	MAX T/O #7 00:00:00	GRD IDLE #8 00:00:00
AUX FCTN SWITCH #6	1 = ON	0	0	0	0	0	0	0	0	0
STABLE FLAG	1=STBL	0	0	0	0	0	0	0	0	0
GROUND IDLE 1=ON		1	0	1	1	1	0	0	0	0
ART SWITCH 1=ACT		0	0	0	0	0	0	0	0	0
G.I. LIMIT LO	RPM	6642			6642					0
G.I. LIMIT HI	RPM	6741			6742					0
P.P. STOP HI LIM	EPR		1.882							
P.P. STOP LOW LIM	EPR		1.867							
F.I. LIMIT LO	RPM			0						
F.I. LIMIT HI	RPM			0						
MAX CRUISE TGT	LBS					15709				
MAX CONT TGT	LBS						0			
NORM TAKEOFF TGT	LBS							0		
MAX TAKEOFF TGT	LBS								0	
MAX CRUISE LO	LBS					15603				
MAX CRUISE HI	LBS					15814				
MAX CONTINUOUS LO	LBS						0			
MAX CONTINUOUS HI	LBS									
NORMAL TAKEOFF LO	LBS							0		
NORMAL TAKEOFF HI	LBS								0	
MAX TAKEOFF LO	LBS									0
MAX TAKEOFF HI	LBS									0
FUEL FLOW AVERAGE	PPH	955	1411	4570	10482	10302	0	0	0	0
WFM	PPH	957	1407	4620	10345	10289	0	0	0	0
FUEL SYS. SEL	1=SYS1	1	1	1	1	1	0	0	0	0
FUEL FLOW	GPM	2.395	3.521	11.550	25.862	25.652	0.000	0.000	0.000	0.000
FUEL DENSITY	KG/M3	797.9	797.9	798.0	798.0	798.0	0.0000	0.0000	0.0000	0.0000
FUEL DENSITY	LB/GAL	6.659	6.659	6.659	6.660	6.660	0.0000	0.0000	0.0000	0.0000
FUEL SG	RATIO	0.8001	0.8001	0.8001	0.8002	0.8002	0.0000	0.0000	0.0000	0.0000
FUEL METER TEMP	DEG F	83.34	83.26	83.07	83.18	83.52	0.00	0.00	0.00	0.00
LOWER HEAT VALUE	LHV	18550	18550	18550	18550	18550	0	0	0	0
WF KC	FACTOR	1.031	1.031	1.031	1.032	1.032	0.0000	0.0000	0.0000	0.0000
DELTA (PRESS COR)	FACTOR	0.9942	0.9781	0.9627	0.9522	0.9519	0.0000	0.0000	0.0000	0.0000
THETA (TEMP COR)	FACTOR	1.052	1.051	1.051	1.053	1.053	0.0000	0.0000	0.0000	0.0000
THETA .5 POWER	FACTOR	1.026	1.025	1.025	1.026	1.026	0.0000	0.0000	0.0000	0.0000
THETA 1.019 POWER	FACTOR	1.054	1.053	1.052	1.054	1.054	0.0000	0.0000	0.0000	0.0000
THETA .985 POWER	FACTOR	1.052	1.051	1.050	1.052	1.052	0.0000	0.0000	0.0000	0.0000
PT2	IN.HGA	29.747	29.263	28.004	28.490	28.481	0.000	0.000	0.000	0.000
PS3.2	IN.HGA	38.83	48.11	117.38	199.23	198.21	0.00	0.00	0.00	0.00
WAT		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
WAE		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
THRUST OBS AVG	LBS	831	1899	8348	18598	18559	0	0	0	0
THRUST CORR TYPE	1 OR 2	1	1	1	1	1	0	0	0	0
THRUST/DELTA	LBS	838	1945	8750	19520	19499	0	0	0	0
DELTA FN/ST2	LBS	0	0	0	576	576	0	0	0	0
THRUST CORR.	LBS	838	1945	8750	20096	20075	0	0	0	0
WT OBS	DRW	2060	2060	5061	7002	7002	0	0	0	0

N2 O2S	RPM	6401	8137	10528	11765	11807	0	0	0	0
F.I. HI LMT TEMP.	RPM	1450	1451	1451	1450	1450	0	0	0	0
F.I. LO LMT TEMP.	RPM	945	946	946	945	945	0	0	0	0
F.I. INCREMENT	RPM	72	72	72	72	72	0	0	0	0
N2 ACCEL TARGET	RPM						0	0	0	0
TT2 #1	DEG F	86	86	85	86	86	0	0	0	0
TT2 #2	DEG F	86	86	85	86	86	0	0	0	0
TT2 #3	DEG F	87	86	86	87	87	0	0	0	0
TT2 #4	DEG F	86	86	86	86	87	0	0	0	0
EXHAUST #1 TEMP	DEG F	*98085	*97151	*12121	*35596	*35740	0	0	0	0
EXHAUST #2 TEMP	DEG F	*16118	*25224	*46615	*83342	*93264	0	0	0	0
EXHAUST #3 TEMP	DEG F	*73611	*76351	*89559	*88044	*83019	0	0	0	0
EXHAUST #4 TEMP	DEG F	*62595	*80097	*60348	*56577	*98372	0	0	0	0
EXHAUST STACK	DEG F	*37176	*44706	*52161	*65890	*77599	0	0	0	0
TT2	DEG F	86.2	85.7	85.5	86.3	86.4	0.0	0.0	0.0	0.0
TT3 LEFT	DEG F	-3173	-3186	-3283	-3386	-3432	0	0	0	0
TT3 RIGHT	DEG F	-982	-1000	-1116	-1234	-1285	0	0	0	0
TT4	DEG F	-955	-970	-1075	-1186	-1235	0	0	0	0
TT71-TT7 HARN AVE	DEG F						0	0	0	0
TT72-TT7 HARN AVE	DEG F						0	0	0	0
TT73-TT7 HARN AVE	DEG F						0	0	0	0
TT74-TT7 HARN AVE	DEG F						0	0	0	0
TT75-TT7 HARN AVE	DEG F						0	0	0	0
TT76-TT7 HARN AVE	DEG F						0	0	0	0
TT77-TT7 HARN AVE	DEG F						0	0	0	0
TT78-TT7 HARN AVE	DEG F						0	0	0	0
TT7 PROBE MAXIMUM	DEG F						0	0	0	0
TT7 PROBE MINIMUM	DEG F						0	0	0	0
TT7 PROBE-HARN MX	DEG F						0	0	0	0
TT7 PROBE SPREAD	DEG F						0	0	0	0
SPEC FUEL CONSUMP	RATIO	1.102	0.714	0.523	0.526	0.518	0.000	0.000	0.000	0.000
EGT	DEG F	798	715	813	1058	1064	0	0	0	0
BAROMETER	IN. HGA	29.261	29.261	29.260	29.259	29.259	0.000	0.000	0.000	0.000
CELL PRESS REAR	IN. H2O	-0.59	-1.33	-5.51	-10.98	-10.95	0.00	0.00	0.00	0.00
CELL PRESS FRONT	IN. H2O	-0.69	-1.60	-6.71	-13.30	-13.42	0.00	0.00	0.00	0.00
PT2	IN. HGA	29.747	29.263	28.804	28.490	28.481	0.000	0.000	0.000	0.000
PS2	IN. HGA	29.261	29.261	29.260	29.259	29.259	0.000	0.000	0.000	0.000
PT7	IN. HGA	30.04	31.14	39.24	55.24	55.18	0.00	0.00	0.00	0.00
PT4	IN. HGA	29.29	29.33	29.30	29.32	29.35	0.00	0.00	0.00	0.00
PS4 ABS.	IN. HGA	29.30	29.39	28.96	28.62	28.28	0.00	0.00	0.00	0.00
PB (BURNER)	IN. HGA	60.94	99.54	280.47	506.09	506.52	0.00	0.00	0.00	0.00
PT3	IN. HGA	29.31	29.32	29.33	29.34	29.36	0.00	0.00	0.00	0.00
PS3.2	IN. HGA	38.83	48.11	117.38	199.23	198.21	0.00	0.00	0.00	0.00
PCP	IN. HGA	42.74	62.07	167.90	308.93	305.58	0.00	0.00	0.00	0.00
PT6	IN. HGA	29.32	29.32	29.32	29.33	29.35	0.00	0.00	0.00	0.00
STORED AIR PRESS	PSIG	109.2	109.2	109.2	109.2	109.2	0.0	0.0	0.0	0.0
START AIR PRESS	PSIG	0.0	0.0	-0.2	-0.4	-0.4	0.0	0.0	0.0	0.0
FUEL INLET PRESS	PSIG	38.3	38.4	37.6	33.5	34.0	0.0	0.0	0.0	0.0
PBR	PSIG	0.0447	0.0830	0.2227	0.3866	0.4268	0.0000	0.0000	0.0000	0.0000
THRUST OBSERVED	LBS	835	1906	8471	18525	18523	0	0	0	0
THRUST VERIFY	LBS	697942	689907	785110	886017	934419	0	0	0	0

13:27:11 ENGINE SHUT DOWN DETECTED

13:55:30 SL-HI (90.3) MUSCLE/PS4 DIFF. 136.5 PSIG RTN TO IDLE CK PS4

APPENDIX 3