U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

Area Equivalent Method on VISICALC®

FAA-EE-84-8

CHANGE 1 APRIL 1984

This change transmits corrections to the tables of a and b parameters for the Concorde ('CONCRD', #17) and the Boeing 727-200 w/JT8D-15 ('727D15', #25).

PAGE CONTROL CHART

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3-3 and 3-4.....		3-4.....	Chg 1
B-3 and B-4.....		B-4.....	Chg 1

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Edward Warren: First American Aloft

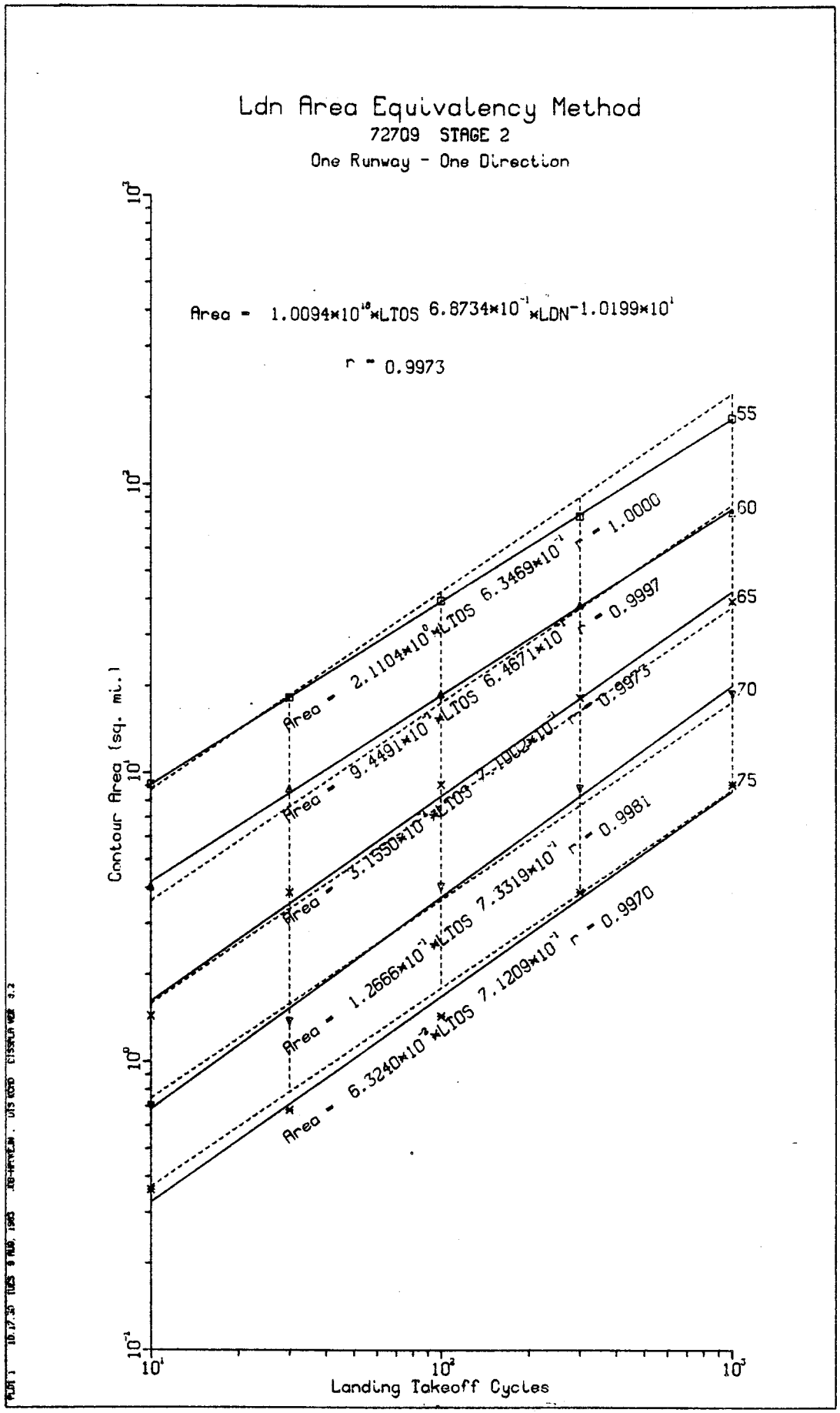

FIGURE 3-1. AEM LINEAR REGRESSION LINES FOR 727Q9 STAGE 2

TABLE 3-1

AEM PARAMETERS AND CORRELATION COEFFICIENTS FOR INM AIRCRAFT

(part 1 of 2)

Aircraft Type	65 Ldn a	65 Ldn b	65 Ldn r	75 Ldn a	75 Ldn b	75 Ldn r
747100	.22594	.70658	.9999	.058717	.6568	.9982
747200	.094848	.71062	.9993	.056022	.52171	.9811
747100Q	.085753	.70686	.9994	.039767	.56111	.9922
747SP	.072382	.70726	.9987	.031276	.57653	.9889
DC820	.54677	.61749	.9995	.094781	.67403	.9994
707	.43092	.63363	.9997	.081632	.6692	.9999
720	.30018	.65145	.9997	.062408	.66438	.9997
707320	.46628	.63776	.9996	.086793	.67387	.9993
707120	.39068	.63666	.9994	.075951	.66588	.9976
720B	.33421	.64428	.9994	.057873	.68983	.9993
DC850	.45335	.6216	.9994	.085881	.66095	.9988
DC860	.50433	.63693	.9997	.093926	.67211	.9992
DC8CFM	.095168	.56752	.9995	.058978	.42531	.9901
707CFM	.090267	.56054	.9976	.075816	.36805	.9844
707QN	.39478	.61722	.9995	.070882	.66658	.9988
DC8QN	.46346	.60835	.9991	.074511	.68043	.9983
CONCRD	3.1758	.80275	.9987	.21072	.96202	.984
DC1010	.055833	.74586	.9981	.057591	.44377	.969
DC1030	.072532	.7207	.9992	.055537	.48144	.9765
DC1040	.069732	.72171	.9991	.055983	.47362	.9736
L1011	.061686	.74073	.9984	.059958	.45116	.9729
L10115	.070318	.73216	.9987	.061885	.46334	.9727
727200	.37045	.66575	.9994	.063094	.70508	.9984
727100	.31686	.66503	.999	.050802	.71719	.9988
727D15	.68539	.59821	.9996	.102036	.6865	.9976
727Q9	.39856	.64771	.9993	.063155	.70725	.9985
727Q7	.25431	.67698	.9987	.041575	.72221	.9987
727Q15	.63749	.59125	.9996	.088996	.69357	.9974
727D17	.77352	.58384	.9992	.13183	.65354	.9965
A300	.056243	.70843	.9973	.065947	.40001	.9676
767	.045582	.73509	.9994	.029423	.51749	.9843
A310	.049037	.70737	.9975	.033022	.4913	.9897
BAC111	.15806	.6387	.9998	.045305	.60061	.9996
F28	.11424	.67717	.9979	.061902	.51202	.9969
DC930	.255	.64224	.9992	.047022	.67878	.9992
DC910	.15256	.68445	.9994	.028217	.70457	.9974
737	.20892	.67236	.9977	.032167	.72995	.9991
DC9Q9	.19709	.65771	.9971	.034592	.70398	.9957
DC9Q7	.12141	.69248	.9992	.023937	.69715	.9941
737QN	.17448	.68081	.9973	.02582	.7414	.9974
DC950	.54058	.58632	.9992	.084585	.6713	.9977
737D17	.47652	.58646	.999	.058649	.7154	.9983
DC980	.057292	.7005	.9989	.029371	.53347	.985
757RB	.035748	.78426	.9998	.028126	.51577	.9737

```
O11:  @IF(@OR(N32=Ø,@ISNA(M11)),Ø,(N11/N32) (1/M11))
      /R
      O12.O3Ø
      NRRNR
O32:  /FR"<Ref Area
O34:  /FL"r Area =
P10:  /FL"Wgtings
P11:  @IF(@ISNA(M11),Ø,O11/M11)
      /R
      P12.P3Ø
      RRR
O31:  @SUM(O11.O3Ø)
P31:  @SUM(P11.P3Ø)
P32:  /FR"Valid
P34:  /F$@IF(P31=Ø,@NA,+(O31 (O31/P31))*N31)
Q9 :  /FR"To Veri
Q10:  /FL"  LTOs
Q11:  @IF(@OR(@ISNA(L11),@ISNA(M11)),Ø,(P34/L11) (1/M11))
      /R
      Q12.Q30
      RRNRR
Q32:  /FL"ity Test:
Q34:  /FG"  sq. mi.
R9 :  /FL"fy Area
R10:  /FL"Eff LTOs
R11:  @IF(Q11=Ø,Ø,+K11/Q11)
      /R
      R12.R30
      RRR
R31:  @SUM(R11.R30)
R32:  @AND(R31>=1,R31<=1.Ø2)
```

TABLE B-1

LOCATIONS OF A AND B PARAMETERS ON AEM TEMPLATE

(part 1 of 2)

ROW	COLUMN A	B	C	D	E	F	G	H	I
44	AIRCRAFT	AIRCRAFT	65 LDN	AIRCRAFT	65 LDN	AIRCRAFT	75 LDN	AIRCRAFT	75 LDN
45	TYPE	ID	A	ID	B	ID	A	ID	B
46									
47	747100	1	.22594	1	.70658	1	.058717	1	.6568
48	747200	2	.094848	2	.71062	2	.056022	2	.52171
49	747100	3	.085753	3	.70686	3	.039767	3	.56111
50	747SP	4	.072382	4	.70726	4	.031276	4	.57653
51	DC820	5	.54677	5	.61749	5	.094781	5	.67403
52	707	6	.43092	6	.63363	6	.081632	6	.6692
53	720	7	.30018	7	.65145	7	.062408	7	.66438
54	707320	8	.46628	8	.63776	8	.086793	8	.67387
55	707120	9	.39068	9	.63666	9	.075951	9	.66588
56	720B	10	.33421	10	.64428	10	.057873	10	.68983
57	DC850	11	.45335	11	.6216	11	.085881	11	.66095
58	DC860	12	.50433	12	.63693	12	.093926	12	.67211
59	DC8CFM	13	.095168	13	.56752	13	.058978	13	.42531
60	707CFM	14	.090267	14	.56054	14	.075816	14	.36805
61	707QN	15	.39478	15	.61722	15	.070882	15	.66658
62	DC8QN	16	.46346	16	.60835	16	.074511	16	.68043
63	CONCRD	17	3.1758	17	.80275	17	.21072	17	.96202
64	DC1010	18	.055833	18	.74586	18	.057591	18	.44377
65	DC1030	19	.072532	19	.7207	19	.055537	19	.48144
66	DC1040	20	.069732	20	.72171	20	.055983	20	.47362
67	L1011	21	.061686	21	.74073	21	.059958	21	.45116
68	L10115	22	.070318	22	.73216	22	.061885	22	.46334
69	727200	23	.37045	23	.66575	23	.063094	23	.70508
70	727100	24	.31686	24	.66503	24	.050802	24	.71719
71	727D15	25	.68539	25	.59821	25	.102036	25	.6865
72	727Q9	26	.39856	26	.64771	26	.063155	26	.70725
73	727Q7	27	.25431	27	.67698	27	.041575	27	.72221
74	727Q15	28	.63749	28	.59125	28	.088996	28	.69357
75	727D17	29	.77352	29	.58384	29	.13183	29	.65354
76	A300	30	.056243	30	.70843	30	.065947	30	.40001
77	767	31	.045582	31	.73509	31	.029423	31	.51749
78	A310	32	.049037	32	.70737	32	.033022	32	.4913
79	BAC111	33	.15806	33	.6387	33	.045305	33	.60061
80	F28	34	.11424	34	.67717	34	.061902	34	.51202
81	DC930	35	.255	35	.64224	35	.047022	35	.67878
82	DC910	36	.15256	36	.68445	36	.028217	36	.70457
83	737	37	.20892	37	.67236	37	.032167	37	.72995
84	DC9Q9	38	.19709	38	.65771	38	.034592	38	.70398
85	DC9Q7	39	.12141	39	.69248	39	.023937	39	.69715
86	737QN	40	.17448	40	.68081	40	.02582	40	.7414
87	DC950	41	.54058	41	.58632	41	.084585	41	.6713
88	737D17	42	.47652	42	.58646	42	.058649	42	.7154
89	DC980	43	.057292	43	.7005	43	.029371	43	.53347
90	757RB	44	.035748	44	.78426	44	.028126	44	.51577