McDonnell Douglas DC-10-30 Performance
(CF6-50C2)

Compiled by Matt Zagoren

DC-10-30 Takeoff Speeds

PRESSURE ALTITUDE 1000 FEET / TEMPERATURE °F
(Use assumed temperature for NORMAL N1)
(Use reported airport temperature for LIMIT N1)

PRESSURE ALTITUDE 1000 FEET	T1	T2	T3	T4	T5	T6	T7	T8	T9
7 to 8	--	--	--	--	--	--	-20 to 64	64 to 78	78 to 87
6 to 7	--	--	--	--	--	-20 to 68	68 to 80	80 to 88	88 to 95
5 to 6	--	--	--	--	-20 to 72	72 to 82	82 to 89	89 to 96	96 to 103
4 to 5	--	--	--	-20 to 75	75 to 83	83 to 90	90 to 97	97 to 104	104 to 110
3 to 4	--	--	-20 to 78	78 to 86	86 to 93	93 to 100	100 to 106	106 to 111	111 to 117
2 to 3	--	-20 to 80	80 to 87	87 to 94	94 to 100	100 to 108	108 to 114	114 to 120	118 to 124
1 to 2	--	-20 to 89	89 to 96	96 to 102	102 to 108	108 to 114	114 to 120	120 to 124	--
0 to 1	-20 to 90	90 to 97	97 to 103	103 to 109	109 to 115	115 to 120	120 to 125	--	--
-1 to 0	-20 to 97	97 to 104	104 to 109	109 to 115	115 to 120	120 to 125	--	--	--

FLAP	WT 1000 LBS	T1 V1 VR V2	T2 V1 VR V2	T3 V1 VR V2	T4 V1 VR V2	T5 V1 VR V2	T6 V1 VR V2	T7 V1 VR V2	T8 V1 VR V2	T9 V1 VR V2	FLAP ZERO	SLAT MANEUVER	CLEAN MANEUVER
8	600	176 185 197	177 186 197	178 187 197	179 188 197	180 189 197	181 190 197	182 191 197	183 192 197	184 193 197	205	258	273
	580	172 180 192	173 181 192	174 182 193	175 183 193	176 184 193	177 185 193	178 186 193	179 187 193	180 188 193	201	253	269
	560	167 176 188	168 177 188	169 178 189	170 179 189	171 180 189	172 181 189	173 182 189	174 183 189	175 184 189	197	249	265
	540	163 171 184	164 172 184	165 173 185	166 174 185	167 175 185	168 176 185	169 177 185	170 178 185	171 179 185	193	244	260
	520	158 167 180	159 168 180	160 169 181	161 170 181	162 171 181	163 172 181	164 173 181	165 174 181	166 175 181	189	240	257
	500	153 162 176	154 163 176	155 164 177	156 165 177	157 166 177	158 167 177	159 168 177	160 169 177	161 170 177	185	235	253
	480 V	149 158 172	150 159 172	151 160 173	152 161 173	153 162 173	154 163 173	155 164 173	156 165 173	157 166 173	181	229	250
	460	145 154 168	146 155 168	147 156 169	148 157 169	149 158 169	150 159 169	151 160 169	152 161 169	153 162 169	177	223	247
	440 B	140 150 165	141 151 165	142 152 166	143 153 166	144 154 166	145 155 166	146 156 166	147 157 166	148 158 166	174	218	243
	420 A	136 145 161	137 146 161	138 147 162	139 148 162	140 149 162	141 150 162	142 151 162	143 152 162	144 153 162	170	212	239
	400 S	131 141 158	132 142 158	133 143 158	134 144 158	135 145 158	136 146 158	137 147 158	138 148 158	139 149 158	167	207	236
	380 I	127 136 154	128 137 154	129 138 154	130 139 154	131 140 154	132 141 154	133 142 154	134 143 154	135 144 154	162	200	233
	360 C	122 131 149	123 132 149	124 133 149	125 134 149	126 135 149	127 136 149	128 137 149	129 138 149	130 139 149	162	196	229
	347.8	119 128 147	120 129 147	121 130 147	122 131 147	123 132 147	124 133 147	125 134 147	126 135 147	127 136 147	162	195	226
	340	116 126 145	117 127 145	118 128 145	119 129 145	120 130 145	121 131 145	122 132 145	123 133 145	124 134 145	162	194	205
	320	111 121 141	112 122 141	113 123 141	114 124 141	115 125 141	116 126 141	117 127 144	118 128 144	119 129 144	162	188	201
	300	105 115 136	106 116 136	107 117 136	108 118 136	109 119 136	110 120 136	111 121 136	112 122 136	113 123 136	162	182	197
	280	99 109 131	100 110 131	101 111 131	102 112 131	103 113 131	104 114 131	105 115 131	106 116 131	107 117 131	162	176	192
	260	93 103 126	94 104 126	95 105 126	96 106 126	97 107 126	98 108 126	99 109 126	100 110 126	101 111 126	162	169	187
	V LIMITED	134 134 156	132 132 151	130 130 148	128 128 146	127 127 143	125 125 140	123 123 138	122 122 137	121 121 136	--	--	--
15	600	170 178 190	171 179 190	172 180 190	173 181 190	174 182 190	175 183 190	176 184 190	177 185 190	178 186 190	205	258	273
	580	166 174 186	167 175 186	168 176 186	169 177 186	170 178 186	171 179 186	172 180 186	173 181 186	174 182 186	201	253	269
	560	131 169 182	162 170 182	163 171 182	164 172 182	165 173 182	166 174 182	167 175 182	168 176 182	169 177 182	197	249	265
	540	157 165 178	158 166 178	159 167 178	160 168 178	161 169 178	162 170 178	163 171 178	164 172 178	165 173 178	193	244	260
	520	152 160 174	153 161 174	154 162 174	155 163 174	156 164 174	157 165 174	158 166 174	159 167 174	160 168 174	189	240	257
	500	148 156 170	149 157 170	150 158 170	151 159 170	152 160 170	153 161 170	154 162 170	155 163 170	156 164 170	185	235	253
	480 V	143 152 166	144 153 166	145 154 166	146 155 166	147 156 166	148 157 166	149 158 166	150 159 166	151 160 166	181	229	250
	460	139 148 161	140 149 163	141 150 162	142 151 162	143 152 162	144 153 162	145 154 162	146 155 162	147 156 162	176	222	247
	440 B	135 144 159	136 145 159	137 146 159	138 147 159	139 148 159	140 149 159	141 150 159	142 151 159	143 152 159	174	218	243
	420 A	131 140 156	132 141 156	133 142 156	134 143 156	135 144 156	136 145 156	137 146 156	138 147 156	139 148 156	171	213	239
	400 S	127 135 152	128 136 152	129 137 152	130 138 152	131 139 152	132 140 152	133 141 152	134 142 152	135 143 152	169	209	236
	380 I	122 131 148	123 132 148	124 133 148	125 134 148	126 135 148	127 136 148	128 137 148	129 138 148	130 139 148	169	205	233
	360 C	117 126 144	118 127 144	119 128 144	120 129 144	121 130 144	122 131 144	123 132 144	124 133 144	125 134 144	169	199	229
	347.8	113 123 142	115 124 142	116 125 142	117 126 142	118 127 142	119 128 142	120 129 142	121 130 142	122 131 142	169	196	226
	340	112 121 140	113 122 140	114 123 140	115 124 140	116 125 140	117 126 140	118 127 140	119 128 140	120 129 140	169	194	205
	320	107 116 136	108 117 136	109 118 136	110 119 136	111 120 136	112 121 136	113 122 136	114 123 136	115 124 136	169	188	201
	300	102 111 132	103 112 132	104 113 132	105 114 132	106 115 132	107 116 132	108 117 132	109 118 132	110 119 132	169	182	197
	280	96 105 127	97 106 127	98 107 127	99 108 127	100 109 127	101 110 127	102 111 127	103 112 127	104 113 127	169	176	192
	260	90 100 123	91 101 123	92 102 123	93 103 123	94 104 123	95 105 123	96 106 123	97 107 123	98 108 123	169	169	187
	V LIMITED	133 133 155	131 131 150	129 129 147	127 127 145	126 126 142	124 124 139	122 122 137	121 121 136	120 120 135	--	--	--

PROCEDURE FOR DETERMINING TAKEOFF SPEEDS

1. Enter takeoff speeds table with pressure altitude, ambient temperature, takeoff flap setting and takeoff gross weight.

2. Determine V1, Vr and V2 Basic speeds.

3. Adjust V1, Vr and V2 Basic speeds per adjustments below.

4. Compare adjusted V1 Basic with V1 Limit speed and use higher speed as V1.

5. Compare adjusted Vr Basic with Vr Limit speed and use higher speed as Vr.

6. Use adjusted V2 Basic as V2.

Note: The V1 speeds obtained from these procedures do not consider maximum brake energy limits. However, the maximum allowable takeoff gross weights have been computed to ensure maximum brake energy limits are not exceeded.

Limit bank to 15° after slat retraction until acceleration to clean maneuvering speed.

Adjustments:

Altitude/Weight - Increase V Basic speeds as shown.

PRESSURE ALTITUDE (1000 FEET)	260-400	400-440	440-480	480-520	520-560	560-600
	V1 VR V2	V1 VR V2	V1 VR V2	V1 VR V2	V1 VR V2	V1 VR V2
7 to 8	0 0 0	+1 +1 +1	+3 +2 +3	+4 +4 +4	0 0 0	0 0 0
6 to 7	0 0 0	0 0 0	+2 +1 +2	+3 +3 +4	+4 +3 +4	0 0 0
5 to 6	0 0 0	0 0 0	+1 +1 +1	+3 +2 +3	+3 +2 +3	0 0 0
4 to 5	0 0 0	0 0 0	0 0 0	+2 +1 +2	+2 +1 +2	+2 +1 2
3 to 4	0 0 0	0 0 0	0 0 0	+1 +1 +1	+1 +1 +1	+1 +1 +2
2 to 3	0 0 0	0 0 0	0 0 0	0 0 +1	0 0 +1	+1 0 +1
1 to 2	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0

Wind - For each 10 knots headwind, increase V1 Basic 1 knot. For each 10 knots tailwind, decrease V1 Basic 2 knots.

Slope -

AIRPORT	RUNWAY	V1 BASIC ADJUSTMENT	VR BASIC ADJUSTMENT
COS	17	-2	-1
	35	+2	+1
LAS	1R, 7	-1	-1
	19L, 25	+1	+1
SEA	16R/L	-1	-1
	34L/R	+1	+1

Air Conditioning - With engine air bleed for air conditioning on, increase V1 Basic and Vr Basic 1 knot.

DC-10-30 Takeoff Thrust N1

Two thrust settings are available for takeoff: Normal N1 and Limit N1.

Normal N1 is the thrust required under normal conditions and results in reduced engine wear and fuel consumption. Normal N1 is calculated by using an assumed temperature.

Limit N1 is the maximum thrust available. It must be used for the following conditions:

- Tailwind

- When takeoff runway has standing water, ice, slush, or snow

- Antiskid inoperative

- One brake deactivated

- Engine anti-ice on

- N1 indicator inoperative

- Reported or suspected windshear conditions

- Use of variable V1 procedure for slippery runway

For Normal N1:

- Determine assumed temperature. Enter the Gross Weights (not shown) page with actual gross weight. Runway Limit Temperature - Using actual takeoff weight in RWY LIMIT column, find maximum temp for takeoff with zero wind. Performance Limit Temperature - Using actual takeoff weight in PERF LIMIT column, find max temp for climb. Compare the two values and use the lower. This is the assumed temperature for normal N1 and the associated takeoff speeds.

- Using assumed temperature (or pressure altitude if limiting), determine normal N1 from TAKEOFF THRUST N1 table.

- Apply engine bleed air off correction if appropriate.

For Limit N1:

- Using reported airport temperature (or pressure altitude if limiting), determine limit N1 from TAKEOFF THRUST N1 table.

- Apply bleed correction if appropriate.

DC-10-30 Takeoff Thrust N1

TAKEOFF THRUST N1

PRESSURE ALTITUDE	TEMP °F/°C SEE NOTE	REPORTED AIRPORT TEMPERATURE °F/°C														
		-20/-29	-10/-23	0/-17	10/-12	20/-7	30/-1	40/+5	50/+10	60/+16	70/+21	80/+27	90/+32	100/+37	110/+43	120/+49
	130/54	94.0	95.0	96.1	97.1	98.1	99.2	100.2	101.2	102.1	103.1	104.1	105.1	106.0	106.9	107.9
	128/53	94.4	95.4	96.5	97.5	98.6	99.6	100.6	101.6	102.6	103.6	104.5	105.5	106.5	107.4	108.3
	126/51	94.8	95.8	96.9	97.9	99.0	100.0	101.0	102.0	103.0	104.0	105.0	106.0	106.9	107.9	108.8
	124/51	95.2	96.2	97.3	98.4	99.4	100.4	101.5	102.5	103.5	104.5	105.4	106.4	107.4	108.3	109.3
	122/50	95.6	96.7	97.7	98.8	99.8	100.9	101.9	102.9	103.9	104.9	105.9	106.9	107.8	108.8	109.7
	120/49	96.0	97.1	98.1	99.2	100.3	101.3	102.3	103.3	104.4	105.4	106.3	107.3	108.3	109.3	110.2
	118/47	96.4	97.5	98.6	99.6	100.7	101.7	102.8	103.8	104.8	105.8	106.8	107.8	108.8	109.7	110.7
	116/46	96.8	97.9	99.0	100.1	101.1	102.2	103.2	104.2	105.3	106.3	107.3	108.3	109.2	110.2	111.2
	114/45	97.2	98.3	99.4	100.5	101.6	102.6	103.7	104.7	105.7	106.7	107.7	108.7	109.7	110.7	111.6
	112/44	97.7	98.8	99.8	100.9	102.0	103.1	104.1	105.1	106.2	107.2	108.2	109.2	110.2	111.2	112.1
	110/43	98.1	99.2	100.3	101.4	102.4	103.5	104.5	105.6	106.6	107.6	108.7	109.7	110.6	111.6	112.6
	108/42	98.5	99.6	100.7	101.8	102.9	103.9	105.0	106.0	107.1	108.1	109.1	110.1	111.1	112.1	
	106/41	98.9	100.0	101.1	102.2	103.3	104.4	105.4	106.5	107.5	108.6	109.6	110.6	111.6	112.6	
	104/39	99.3	100.5	101.6	102.7	103.8	104.8	105.9	107.0	108.0	109.0	110.1	111.1	112.1	113.1	
	102/38	99.8	100.9	102.0	103.1	104.2	105.3	106.3	107.4	108.5	109.5	110.5	111.5	112.6	113.6	
	100/37	100.2	101.3	102.4	103.5	104.6	105.7	106.8	107.9	108.9	110.0	111.0	112.0	113.0	114.0	
	98/36	100.6	101.7	102.9	104.0	105.1	106.2	107.3	108.3	109.4	110.4	111.5	112.5	113.5		
	96/35	101.0	102.2	103.3	104.4	105.5	106.6	107.7	108.8	109.8	110.9	111.9	113.0	114.0		
	94/34	101.5	102.6	103.7	104.9	106.0	107.1	108.2	109.2	110.3	111.4	112.4	113.4	114.5		
	92/33	101.9	103.0	104.2	105.3	106.4	107.5	108.6	109.7	110.8	111.8	112.9	113.9	114.9		
	90/32	102.3	103.5	104.6	105.7	106.8	108.0	109.1	110.1	111.2	112.3	113.3	114.4	115.4		
SL	88/31	102.7	103.9	105.0	106.2	107.3	108.4	109.5	110.6	111.7	112.7	113.8	114.8			
1T—85	86/30	103.1	104.3	105.5	106.6	107.7	108.8	109.9	111.0	112.1	113.2	114.3	115.3			
	84/29	103.6	104.7	105.9	107.0	108.2	109.3	110.4	111.5	112.6	113.7	114.7	115.8			
2T	82/28	104.0	105.1	106.3	107.5	108.6	109.7	110.8	111.9	113.0	114.1	115.2	116.2			
	80/27	104.4	105.6	106.7	107.9	109.0	110.2	111.3	112.4	113.5	114.6	115.6	116.7			
3T—77	78/26	104.8	106.0	107.1	108.3	109.5	110.6	111.7	112.8	113.9	115.0	116.1				
	76/24	105.2	106.4	107.6	108.7	109.9	111.0	112.1	113.3	114.4	115.5	116.5				
4T—73	74/23	105.6	106.8	108.0	109.1	110.3	111.4	112.6	113.7	114.8	115.9	117.0				
	72/22	106.0	107.2	108.4	109.6	110.7	111.9	113.0	114.1	115.2	116.3	117.4				
	70/21	106.4	107.6	108.8	110.0	111.1	112.3	113.4	114.6	115.7	116.8	117.9				
5T and Above	68/20	106.8	108.0	109.2	110.4	111.5	112.7	113.8	115.0	116.1	117.2					
	66/19	107.2	108.4	109.6	110.8	112.0	113.1	114.3	115.4	116.5	117.6					
	64/18	107.6	108.8	110.0	111.2	112.4	113.5	114.7	115.8	117.0	118.1					
	62/17	108.0	109.2	110.4	111.6	112.8	113.9	115.1	116.2	117.4	118.5					
	60/16	108.3	109.6	110.8	112.0	113.2	114.3	115.5	116.6	117.8	118.9					
	58/14	108.7	109.9	111.1	112.4	113.5	114.7	115.9	117.0	118.2						
	56/14	109.1	110.3	111.5	112.7	113.9	115.1	116.3	117.4	118.6						

NOTES

1. For NORMAL N1, use assumed temperature. For LIMIT N1, use reported airport temperature.

2. If temperature used in NOTE 1 above is **lower** than underlined temperature for pressure altitude shown, use underlined temperature value.

3. Apply the bleed correction as required:

   - Engine bleed for air conditioning packs on - reduce N1 by 1.0
   - Engine anti-ice on - no correction
   - Engine and wing anti-ice on - increase N1 by 1.0

DC-10-30 Climb Thrust N1 (CL)

		1 Pack Per Engine On										
TAT °C	TEMP LIMITED N1	ALTITUDE LIMITED N1										
		SL	5T	10T	15T	20T	25T	30T	35T	36T	40T	42T
60	97.9											
55	98.7											
50	99.5											
45	100.4											
40	101.3											
35	102.3											
30	103.2	101.7										
25	104.3	100.8	104.0									
20	105.4	100.0	103.1	104.9								
15	106.5	99.1	102.2	104.0	105.9							
10	107.8	98.3	101.3	103.1	105.0	107.4						
5	109.1	97.4	100.4	102.2	104.0	106.4						
0	110.7	96.5	99.5	101.3	103.1	105.5	108.3					
-5	112.4	95.6	98.6	100.3	102.2	104.5	107.3	110.2				
-10		94.7	97.7	99.4	101.2	103.5	106.3	109.2	112.0	112.5	112.0	111.7
-15		93.8	96.7	98.4	100.2	102.5	105.3	108.2	110.9	111.5	110.9	110.6
-20		92.9	95.8	97.5	99.3	101.6	104.3	107.1	109.8	110.4	109.8	109.5
-25		92.0	94.8	96.5	98.3	100.5	103.2	106.0	108.7	109.3	108.7	108.4
-30		91.1	93.9	95.5	97.3	99.5	102.2	105.0	107.6	108.2	107.6	107.3
-35		90.1	92.9	94.6	96.3	98.5	101.1	103.9	106.5	107.1	106.5	106.2
-40		89.2	91.9	93.6	95.3	97.5	100.1	102.8	105.4	105.9	105.4	105.1
-45		88.2	90.9	92.5	94.2	96.4	99.0	101.7	104.3	104.8	104.3	104.0
-50		87.2	89.9	91.5	93.2	95.3	97.9	100.6	103.1	103.6	103.1	102.8
-55		86.2	88.9	90.5	92.1	94.3	96.8	99.4	101.9	102.5	102.0	101.7
-60		85.3	87.9	89.5	91.1	93.2	95.7	98.3	100.8	101.3	100.8	100.5

Red = Use Altitude Limited N1
Blue = Use Temp Limited N1

When N1 is limited by both temperature and altitude, use lesser value.
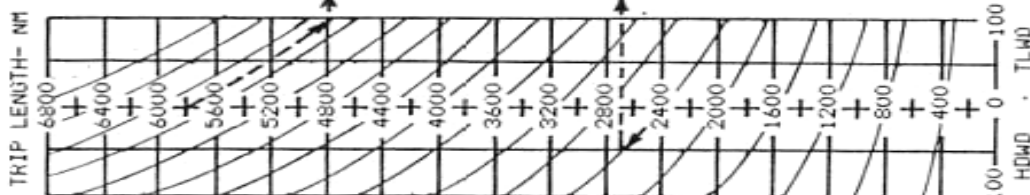Apply the bleed correction as required:
Engine Anti-ice ON: -0.7 N1
Engine & Wing Anti-ice ON: -1.8 N1

CRUISE

DC-10-30 Flight Planning Table

FLIGHT TIME AND FUEL BURNOUT

39,000 FT. 470 TAS (TIME FUEL)	37,000 FT. 470 TAS (TIME FUEL)	35,000 FT. 472 TAS (TIME FUEL)	33,000 FT. 476 TAS (TIME FUEL)	31,000 FT. 481 TAS (TIME FUEL)	29,000 FT. 485 TAS (TIME FUEL)	25,000 FT. 458 TAS (TIME FUEL)	20,000 FT. 425 TAS (TIME FUEL)	15,000 FT. 395 TAS (TIME FUEL)	10,000 FT. 368 TAS (TIME FUEL)
14-56 256.8	14-55 257.0	14-56 258.3	14-24 252.9	14-21 259.4	13-49 258.9	13-42 253.1	13-47 253.8	13-47 256.0	13-41 258.0
14-31 247.3	14-30 247.4	14-30 248.7	13-59 243.4	13-56 249.8	13-24 249.4	13-16 243.4	13-18 243.5	13-16 245.1	13- 8 246.2
14- 5 237.8	14- 6 238.0	14- 4 239.2	13-35 234.1	13-30 240.3	12-59 239.9	12-50 233.9	12-50 233.3	12-46 234.3	12-36 234.6
13-40 228.6	13-40 228.9	13-39 230.0	13-10 224.9	13- 5 231.1	12-34 230.7	12-23 224.6	12-22 223.4	12-15 223.7	12- 3 223.1
13-15 219.5	13-15 219.7	13-14 220.9	12-45 215.9	12-40 222.0	12- 9 221.6	11-57 215.3	11-53 213.6	11-45 213.2	11-30 211.8
12-50 210.6	12-50 210.9	12-49 212.0	12-20 207.1	12-15 213.0	11-44 212.7	11-31 206.2	11-25 203.9	11-14 202.9	10-58 200.6
12-25 201.9	12-25 202.1	12-24 203.2	11-55 198.3	11-50 204.2	11-19 203.9	11- 4 197.2	10-57 194.3	10-44 192.7	10-25 189.5
12- 0 193.3	12- 0 193.5	11-59 194.6	11-30 189.8	11-25 195.5	10-54 195.2	10-38 188.4	10-29 185.0	10-14 182.6	9-52 178.6
11-35 184.9	11-35 185.0	11-34 186.2	11- 5 181.4	11- 0 187.2	10-30 186.7	10-12 179.6	10- 0 175.7	9-43 172.6	9-20 167.9
11-10 176.5	11-10 176.6	11- 9 177.8	10-40 173.1	10-35 178.8	10- 5 178.3	9-46 171.0	9-32 166.6	9-13 162.8	8-47 157.2
10-45 168.5	10-45 168.5	10-44 169.7	10-15 165.1	10-10 170.7	9-40 170.0	9-19 162.5	9- 4 157.6	8-42 153.0	8-14 146.8
10-20 160.5	10-20 160.5	10-19 161.7	9-49 157.1	9-45 162.7	9-15 161.9	8-53 154.0	8-35 148.6	8-12 143.4	7-42 136.4
9-55 152.6	9-54 152.6	9-54 153.7	9-24 149.3	9-20 154.6	8-50 153.8	8-27 145.8	8- 7 139.8	7-42 133.8	7- 9 126.1
9-29 144.9	9-29 145.0	9-28 146.0	8-59 141.7	8-55 147.0	8-25 145.9	8- 1 137.5	7-39 131.1	7-11 124.5	6-36 115.9
9- 4 137.2	9- 4 137.3	9- 3 138.4	8-34 134.1	8-30 139.3	8- 1 138.0	7-34 129.4	7-11 122.5	6-41 115.1	6- 4 105.9
8-39 129.7	8-39 129.9	8-38 130.8	8- 8 126.8	8- 4 131.7	7-36 130.2	7- 8 121.4	6-42 113.9	6-10 105.9	5-31 95.9
8-13 122.4	8-13 122.6	8-13 123.5	7-43 119.5	7-39 124.2	7-11 122.6	6-42 113.4	6-14 105.5	5-40 96.8	4-58 86.0
7-48 115.1	7-48 115.3	7-47 116.2	7-18 112.2	7-14 116.8	6-46 114.9	6-16 105.5	5-46 97.1	5-10 87.8	4-26 76.3
7-22 108.1	7-23 108.3	7-22 109.1	6-53 105.3	6-49 109.5	6-21 107.4	5-49 97.7	5-18 88.8	4-39 78.9	3-53 66.6
6-57 101.2	6-58 101.3	6-56 102.2	6-28 98.3	6-24 102.4	5-57 100.0	5-23 89.9	4-49 80.6	4- 9 69.9	3-20 57.1
6-31 94.2	6-32 94.3	6-31 95.3	6- 2 91.4	5-59 95.2	5-32 92.6	4-57 82.3	4-21 72.5	3-38 61.2	2-48 47.5
6- 6 87.6	6- 7 87.6	6- 5 88.6	5-37 84.7	5-34 88.2	5- 7 85.4	4-31 74.7	3-53 64.4	3- 8 52.5	2-15 38.2
5-41 81.0	5-41 81.0	5-40 82.0	5-12 78.0	5- 9 81.3	4-42 78.2	4- 4 67.2	3-24 56.4	2-38 43.8	1-42 28.8
5-15 74.4	5-16 74.4	5-14 75.4	4-47 71.3	4-44 74.4	4-17 70.9	3-38 59.7	2-56 48.4	2- 7 35.3	1-10 19.6
4-50 68.0	4-50 68.0	4-49 69.0	4-21 64.8	4-19 67.6	3-53 63.9	3-12 52.3	2-28 40.5	1-37 26.7	0-37 10.5
4-24 61.7	4-25 61.7	4-23 62.7	3-56 58.3	3-54 60.9	3-28 56.9	2-46 45.0	2- 0 32.7	1- 6 18.3	
3-59 55.5	3-59 55.5	3-58 56.4	3-31 51.9	3-29 54.1	3- 3 49.8	2-19 37.8	1-31 24.9	0-36 9.5	
3-33 49.3	3-33 49.3	3-33 50.2	3- 6 45.6	3- 4 47.5	2-38 43.0	1-53 30.5	1- 3 17.2		
3- 8 43.3	3- 8 43.4	3- 7 44.2	2-40 39.4	2-39 41.0	2-13 36.1	1-27 23.4	0-35 9.3		
2-42 37.4	2-42 37.5	2-42 38.2	2-15 33.2	2-14 34.5	1-49 29.3	1- 1 16.3			
2-17 31.4	2-17 31.5	2-16 32.1	1-50 27.0	1-49 28.0	1-24 22.6	0-34 9.3			
1-51 25.8	1-51 25.8	1-51 26.3	1-25 21.0	1-24 21.7	0-59 15.9				
1-26 20.2	1-26 20.2	1-25 20.5	1- 0 15.0	0-59 15.4	0-34 9.2				
1- 0 14.6	1- 0 14.6	1- 0 14.7	0-59 9.0	0-34 9.0					
0-34 8.9	0-34 8.9	0-34 8.9							
550 LBS/HR	500 LBS/HR	450 LBS/HR	450 LBS/HR	400 LBS/HR	350 LBS/HR	300 LBS/HR	250 LBS/HR		

TRIP LENGTH - NM: 6800, 6400, 6000, 5600, 5200, 4800, 4400, 4000, 3600, 3200, 2800, 2400, 2000, 1600, 1200, 800, 400, 0

HDWD · TLWD: 100 ... 0 ... 100

NOTE - TABLE VALID ONLY FOR LANDING WEIGHT OF 320,000 LBS. FOR EACH 10,000 LBS. DEVIATION ABOVE (BELOW) 320,000 LBS., ADD (SUBTRACT) FUEL BURNOUT CORRECTION SHOWN ABOVE FOR EACH HOUR OF FLIGHT TIME.

DC-10-30 Maximum Recommended Cruise Weight

MACH 0.82				
FLIGHT LEVEL STD TEMP °C	IAS	MAXIMUM WEIGHT (1000 LBS)		
		STATIC AIR TEMPERATURE - °C		
		Ts + 10 and Below	Ts + 15	Ts + 20
410 -56	243	372	372	372
400 -56	249	394	394	394
390 -56	254	416	416	416
380 -56	261	438	438	438
370 -56	266	460	460	460
360 -56	272	482	482	480
350 -54	279	504	504	496
340 -52	285	526	526	510
330 -50	292	549	549	523
320 -48	299	573	565	536
310 -46	305	590	580	548
300 -44	312	590	590	560
290 -42	319	590	590	572

DC-10-30 Mach .82 Cruise

FLIGHT LEVEL / STD TEMP °C	IAS / TAS	580	560	540	520	500	480	460	440	420	400	380	360	340	320	300	280
								GROSS WEIGHT - 1000 POUNDS									
410 / -56	243 / 471											104.1 / 29.5	100.7 / 32.3	98.0 / 35.1	95.9 / 37.7	94.1 / 40.3	92.7 / 42.9
400 / -56	249 / 471			N1 / NAM							104.3 / 28.0	101.1 / 30.5	98.3 / 33.1	96.3 / 35.5	94.5 / 37.9	93.1 / 40.3	91.8 / 42.6
390 / -56	255 / 471									104.5 / 26.6	101.3 / 29.0	98.6 / 31.3	96.6 / 33.5	94.9 / 35.7	93.4 / 37.9	92.1 / 40.1	91.0 / 42.1
380 / -56	261 / 471								104.3 / 25.6	101.3 / 27.7	98.7 / 29.8	96.8 / 31.8	95.1 / 33.8	93.7 / 35.8	92.5 / 37.7	91.3 / 39.7	90.3 / 41.4
370 / -56	267 / 471							104.4 / 24.5	101.2 / 26.5	98.8 / 28.4	96.9 / 30.3	95.3 / 32.1	93.9 / 33.9	92.7 / 35.7	91.6 / 37.4	90.6 / 39.1	89.6 / 40.7
360 / -56	273 / 471						104.0 / 23.6	101.0 / 25.4	98.8 / 27.2	97.0 / 28.9	95.4 / 30.5	94.1 / 32.2	92.9 / 33.8	91.8 / 35.5	90.8 / 37.0	89.9 / 38.4	89.1 / 39.9
350 / -54	280 / 473					103.9 / 22.8	101.2 / 24.2	99.1 / 26.0	97.4 / 27.5	95.9 / 29.0	94.6 / 30.6	93.5 / 32.0	92.4 / 33.5	91.4 / 34.9	90.6 / 36.2	89.7 / 37.6	89.0 / 38.8
340 / -52	286 / 475				103.7 / 22.0	101.3 / 23.5	99.3 / 24.9	97.7 / 26.3	96.3 / 27.7	95.0 / 29.0	94.0 / 30.4	93.0 / 31.7	92.0 / 33.0	91.2 / 34.2	90.3 / 35.4	89.6 / 36.6	88.9 / 37.7
330 / -50	292 / 477		106.2 / 19.9	103.6 / 21.3	101.3 / 22.6	99.5 / 23.9	98.0 / 25.2	96.6 / 26.4	95.4 / 27.7	94.4 / 28.9	93.5 / 30.1	92.5 / 31.3	91.7 / 32.4	90.9 / 33.5	90.2 / 34.6	89.5 / 35.6	88.9 / 36.6
320 / -48	299 / 479	105.6 / 19.4	103.4 / 20.6	101.3 / 21.8	99.6 / 23.0	98.2 / 24.1	96.9 / 25.3	95.8 / 26.4	94.8 / 27.5	93.9 / 28.6	93.0 / 29.7	92.2 / 30.7	91.5 / 31.7	90.8 / 32.7	90.1 / 33.7	89.5 / 34.6	88.9 / 35.5

NOTES:

- Add following corrections for each 1°C above standard temperature, subtract for each 1°C below standard.
    - N1: 0.2
    - TAS: 1 knot
- Check N1 limit and set maximum cruise thrust if less than listed value.
- Total fuel consumption (1000 pounds/hour) = TAS for actual temperature ÷ NAM/1000

DC-10-30 Wind-Altitude Trade Tables

OPTIMUM ALTITUDE (FL)	
Weight	.83M
560	300
540	310
520	320
500	330
480	340
460	350
440	350
420	360
400	370
380	380

BREAKEVEN WIND SPEED DIFFERENCE (KNOTS)						
ALTITUDE CHANGE DESIRED		STARTING CRUISE ALTITUDE				
		Optimum	2000 Feet Below Optimum	4000 Feet Below Optimum	6000 Feet Below Optimum	8000 Feet Below Optimum
2000 Feet	Climb	--	12	16	25	29
	Descent	12	16	25	29	--
4000 Feet	Climb	--	--	28	41	54
	Descent	28	41	54	--	--
6000 Feet	Climb	--	--	--	53	70
	Descent	53	70	--	--	--
8000 Feet	Climb	--	--	--	--	82
	Descent	82	--	--	--	--

For Climb - Indicates the amount of increased headwind or decreased tailwind which can be tolerated for same range.
For Descent - Indicates the amount of decreased headwind or increased tailwind which can be tolerated for same range.

Example:

- Flying at FL330

- Mach 0.82; weight 400

- Wind component at FL330 = -50

- Wind component at FL370 = -60

1. Determine optimum altitude for weight from OPTIMUM ALTITUDE table = FL370

2. Note present altitude is 4000 feet below optimum.

3. Enter appropriate STARTING CRUISE ALTITUDE column in BREAKEVEN WIND SPEED DIFFERENCE table, i.e., 4000 Feet Below Optimum.

4. Proceed down column to 4000 Feet Climb and read breakeven wind speed difference of 28 knots.

5. Known headwind component difference is 10 knots. Since a maximum of 28 knots additional headwind can be tolerated for the same range, it would be advantageous to climb to FL370.

DC-10-30 Descent Distance
Distance from start of descent at cruise altitude to 10,000 feet. (Distance from 10,000 feet to sea level averages 37 nm.)

FLIGHT LEVEL	.83/280 DESCENT SPEED							DISTANCE CORRECTION PER 10 KTS WIND
	GROSS WEIGHT 1000 LBS							
	280	300	320	340	360	380	400	
410	86	89	91	93	95	98	99	1.9
390	81	84	86	88	90	92	93	1.9
370	76	79	81	83	85	86	87	1.8
350	72	74	76	78	80	81	83	1.7
330	66	68	70	72	74	75	76	1.5
310	60	62	64	66	67	69	70	1.4
290	55	57	58	60	61	62	63	1.3
250	44	45	47	48	49	50	50	1.0
200	30	31	32	33	33	34	34	0.8
150	16	17	17	17	18	18	18	0.4
100	0	0	0	0	0	0	0	0.0

DC-10-30 Minimum Drag Speeds - KIAS

PRESS. ALT.	GROSS WEIGHT - 1000 LBS														
	580	560	540	520	500	480	460	440	420	400	380	360	340	320	300
40000												249	245	236	234
35000									265	264	262	254	246	238	230
30000			297	296	296	293	286	279	272	265	258	251	243	235	227
25000	320	314	308	301	295	289	282	276	269	262	255	248	241	233	226
20000	316	310	304	298	292	286	280	273	267	260	253	246	239	232	224
15000	312	307	301	295	289	283	277	271	265	258	251	244	237	230	212
10000	310	305	299	293	287	282	275	269	263	257	250	232	225	218	211
5000	308	303	297	291	286	280	274	268	250	243	237	231	224	218	211
1500	307	301	296	277	285	266	261	255	249	243	237	230	224	217	210

Speeds in table are for airplane in the clean configuration, with or without all engines operating.

Flying at lower speeds in the clean configuration will cause drag to increase and speed instability may develop.

Minimum Drag Speeds can be used as follows:

- Climb - provides the best angle of climb

- Cruise - provides the required FAR enroute climb gradients following engine loss

- Descent - provides minimum angle of descent

- Holding - provides adequate speed stability and, for practical purposes, maximum endurance.

LANDING

DC-10-30 Landing Reference Speeds

FLAPS 50																	
	GROSS WEIGHTS - 1000 POUNDS																
	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540*	560*	580*
REF - IAS	117	122	127	131	135	139	143	146	149	153	157	160	163	167	170*	175*	179*
* Check for flap structural speed limitations.																	

DC-10-30 Maneuver, Approach and Threshold Speeds

FLAPS/SLAT POSITION	MANEUVER	APPROACH	THRESHOLD
UP/RET	REF + 70 347.8 GW AND BELOW REF + 90 ABOVE 347.8 GW	--	--
0/EXT (TAKEOFF)	REF + 45	--	--
15/EXT (TAKEOFF)	REF + 35	--	--
22/EXT (TAKEOFF)	REF + 25	--	--
35/EXT (LAND)	--	REF + 10	REF + 5
50/EXT (LAND)	--	REF + 5	REF

Wind Corrections:

- APPROACH SPEED - Add 1/2 the steady headwind component plus the full gust value to the *threshold* speed for the flap configuration to be used for landing. The total addition must not exceed 15 knots.

- THRESHOLD SPEED - Add only the full gust value to the threshold speed for the flap configuration to be used for landing. Total addition must not exceed 15 knots.

Approach and threshold speeds after wind corrections are the *target speeds*.