



CHAPTER 4F

DC-8-71 PERFORMANCE  
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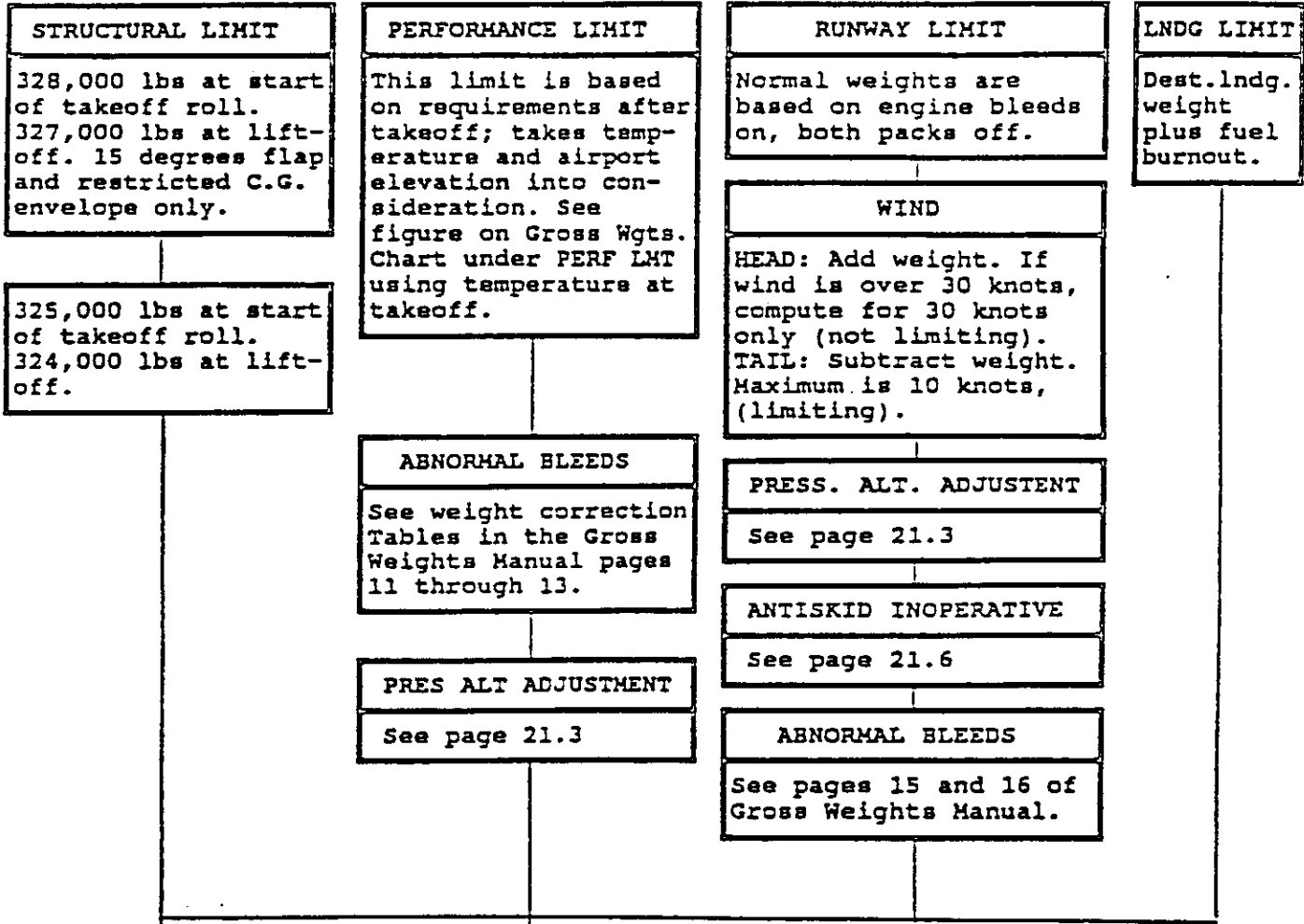
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NORMAL TAKEOFF WEIGHT CONSIDERATION



		RUNWAY CLUTTER									
		REDUCE RUNWAY LIMIT WEIGHT BY VALUE BELOW									
SLUSH WATER & WET SNOW	DRY SNOW	ALLOWABLE RUNWAY TAKEOFF WEIGHT									
		180	200	220	240	260	280	300	320	340	
Under 1/4 INCH	Under 4 INCHES	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	
1/4 INCH	4 INCHES	4000	5000	6500	8000	9000	10000	11500	12500	15000	
1/2 INCH	6 INCHES	7000	10000	13000	16000	19000	22000	25000	28000	32000	

ADJUSTMENTS: For each 1000 feet of airport elevation above sea level, subtract an additional 700 pounds.

IF CONDITIONS OF CLUTTER EXCEED VALUES IN TABLE, TAKEOFF N/A.

THE SMALLEST VALUE IS THE MAXIMUM TAKEOFF WEIGHT



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PRESSURE ALTITUDE WEIGHT ADJUSTMENTS

Runway and performance limit adjustments are to be applied whenever the altimeter setting deviates from 29.92 inches of Hg or from 1013 mb. Both inches of Hg and millibars are shown for reading convenience in the tables below.

ALTIMETER SETTING (INCHES MERCURY)

Alt Set (in. Hg)	R/W Limit G/W Adj (1000 lbs)	Perf Limit G/W Adj (1000 lbs)	
28.90	10.0	12.0	SUBTRACT ADJUSTMENT SHOWN
29.00	9.0	10.8	
29.10	8.0	9.6	
29.20	7.0	8.4	
29.30	6.0	7.2	
29.40	5.1	6.1	
29.50	4.1	4.9	
29.60	3.1	3.2	
29.70	2.1	2.5	
29.80	1.1	1.3	
29.92	0	0	
30.00	.6	.7	
30.10	1.4	1.5	
30.20	2.3	2.5	
30.30	3.1	3.4	
30.40	3.9	4.3	
30.50	4.8	5.3	
30.60	5.6	6.2	
30.70	6.4	7.0	
30.80	7.2	7.9	
30.90	8.1	8.9	
31.00	8.9	9.8	

Alt Set (mb)	R/W Limit G/W Adj (1000 lbs)	Perf Limit G/W Adj (1000 lbs)	
970	12.4	14.9	SUBTRACT ADJUSTMENT SHOWN
975	11.0	13.2	
980	9.5	11.4	
985	8.0	9.6	
990	6.5	7.8	
995	5.1	6.1	
1000	3.6	4.3	
1005	2.1	2.5	
1010	1.0	1.0	
1013	0	0	
1015	.6	.7	ADD ADJUSTMENT SHOWN
1020	1.8	2.0	
1025	3.0	3.3	
1030	3.9	4.3	
1035	5.3	5.8	
1040	6.4	7.0	
1045	7.7	8.5	
1050	8.9	9.8	



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TAKEOFF SPEEDS

1. Determine V1 basic for reported temperature and, if applicable, assumed temperature. Apply adjustments at bottom of table.
2. Determine V1 limit for reported temperature and, if applicable, assumed temperature.
3. Compare adjusted V1 basic speed(s) with V1 limit speed(s) and use the highest.
4. Determine VR and V2 speeds for reported temperature and, if applicable, assumed temperature and use the higher speed in each case. VR and V2 do not require adjustments and limit speeds are incorporated in table.

ALT. - 1000 FT.		AMBIENT TEMPERATURE - ° F					
6 to 7		- - - -	-20 to 70	71 to 86	87 to 104	105 to 119	
5 to 6		- - - -	-20 to 78	79 to 95	96 to 110	111 to 126	
4 to 5		- - - -	-20 to 84	85 to 102	103 to 118	119 to 131	
3 to 4		-20 to 76	77 to 92	93 to 109	110 to 125	126 to 135	
2 to 3		-20 to 82	83 to 100	101 to 116	117 to 131	132 to 138	
1 to 2		-20 to 90	91 to 107	108 to 123	124 to 138	139 to 142	
0 to 1		-20 to 97	98 to 114	115 to 129	130 to 144	145 to 146	
FLAP POS	WEIGHT 1000 LBS	V1 VR V2	V1 VR V2	V1 VR V2	V1 VR V2	V1 VR V2	
15°	328	143 161 170	145 162 170	148 162 170	151 163 170	154 165 170	
	325	142 159 169	144 160 169	147 161 169	150 162 168	153 163 168	
	320 B	140 158 168	143 159 168	145 160 167	148 161 167	151 162 167	
	300 A	134 152 163	136 153 162	138 154 162	141 155 162	144 156 161	
	280 S	127 146 158	129 147 157	132 148 157	134 149 156	137 150 156	
	260 I	120 140 153	123 141 152	125 142 152	128 143 151	130 144 151	
	240 C	113 133 148	115 134 147	117 135 146	120 136 145	122 137 145	
	220	106 125 143	108 127 142	110 128 140	112 129 140	115 130 139	
	200	99 123 142	101 119 136	103 121 135	104 122 134	107 123 133	
	180	92 123 144	93 116 135	95 114 129	97 115 128	99 116 128	
	V1 LIMIT	120 - -	116 - -	111 - -	108 - -	105 - -	
25°	325	142 154 162	144 154 161	146 155 160	149 155 160	151 156 160	
	320 B	140 152 160	143 153 160	145 154 159	147 154 159	149 155 158	
	300 A	134 147 156	136 147 155	139 148 155	141 149 154	143 149 154	
	280 S	128 141 151	130 142 150	132 143 150	135 143 149	137 144 149	
	260 I	122 135 146	124 136 146	126 137 145	128 138 144	130 138 144	
	240 C	115 128 141	117 129 141	119 130 140	121 131 139	123 132 139	
	220	108 123 139	110 122 136	112 123 135	114 124 134	116 125 133	
	200	101 123 141	103 116 132	105 116 130	107 117 129	108 118 128	
	180	94 123 144	96 116 134	98 111 125	99 110 123	101 111 123	
		V1 LIMIT	120 - -	116 - -	111 - -	107 - -	103 - -

ADJUSTMENTS:

1. Headwind: For each 15 knots, increase V1 Basic 1 knot.
2. Tailwind: For each 5 knots, decrease V1 Basic 1 knot.
3. Engine and airplane ice protection on: Increase V1 basic 1 knot.
4. Decrease V1 basic 2 knots per each 1% (.01) downslope.
5. Increase V1 basic 2 knots per each 1% (.01) upslope.



STABILIZER SETTING - DC-8-71

FLAP POS	WEIGHT 1000 LBS	CG - %MAC																		
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
15°	330	8.7	8.2	7.7	7.3	6.8	6.4	5.9	5.4	5.0	4.5	4.1	3.6	3.2	2.7	2.2	1.8	1.3	0.9	0.4
	320	8.3	7.9	7.4	7.0	6.5	6.1	5.6	5.2	4.7	4.3	3.8	3.4	2.9	2.5	2.0	1.6	1.1	0.7	0.2
	300	7.8	7.4	6.9	6.5	6.0	5.6	5.1	4.7	4.3	3.8	3.4	2.9	2.5	2.1	1.6	1.2	0.7	0.3	-0.1
	280	7.3	6.9	6.5	6.0	5.6	5.2	4.7	4.3	3.9	3.4	3.0	2.6	2.1	1.7	1.3	0.8	0.4	0.0	-0.4
	260	6.8	6.4	5.9	5.5	5.1	4.7	4.2	3.8	3.4	2.9	2.5	2.1	1.7	1.2	0.8	0.4	0.0	-0.4	-0.8
	240	6.5	6.1	5.7	5.2	4.8	4.4	3.9	3.5	3.1	2.6	2.2	1.7	1.3	0.9	0.4	0.0	-0.3	-0.8	-
	220	6.1	5.7	5.3	4.8	4.4	4.0	3.5	3.1	2.7	2.2	1.8	1.4	0.9	0.5	0.1	-0.3	-0.7	-1.1	-
	200	5.6	5.2	4.7	4.3	3.9	3.4	3.0	2.6	2.1	1.7	1.3	0.8	0.4	0.0	-0.3	-0.8	-	-	-
	180	4.7	4.3	3.9	3.5	3.1	2.7	2.3	2.0	1.6	1.2	0.8	0.4	0.0	-0.4	-0.8	-	-	-	-

FLAP POS	WEIGHT 1000 LBS	CG - %MAC																		
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
25°	330	--	--	9.6	9.1	8.6	8.1	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.4	2.9	2.4	1.9	1.4
	320	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.1	4.6	4.1	3.6	3.1	2.6	2.1	1.6	1.1
	300	8.9	8.4	7.9	7.5	7.0	6.5	6.1	5.6	5.1	4.7	4.2	3.7	3.3	2.8	2.3	1.9	1.4	0.9	0.5
	280	8.0	7.5	7.1	6.7	6.2	5.8	5.3	4.9	4.4	4.0	3.6	3.1	2.7	2.2	1.8	1.3	0.9	0.5	0.0
	260	7.2	6.8	6.3	5.9	5.5	5.1	4.7	4.2	3.8	3.4	3.0	2.6	2.1	1.7	1.3	0.9	0.4	0.0	-0.3
	240	6.5	6.1	5.7	5.3	4.8	4.4	4.0	3.6	3.2	2.8	2.4	2.0	1.6	1.2	0.8	0.4	0.0	-0.4	-0.8
	220	6.0	5.6	5.2	4.7	4.3	3.9	3.5	3.1	2.7	2.3	1.9	1.5	1.1	0.7	0.3	0.0	-0.4	-0.8	-
	200	5.2	4.8	4.4	4.0	3.7	3.3	2.9	2.5	2.2	1.8	1.4	1.0	0.6	0.3	0.0	-0.4	-0.8	-1.1	-
	180	3.8	3.5	3.2	2.9	2.5	2.2	1.9	1.6	1.2	0.9	0.6	0.3	-0.1	-0.4	-0.7	-1.1	-	-	-

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ANTI-SKID INOPERATIVE TAKEOFF WEIGHT CONSIDERATIONS

Refer to Operating Gross Weight page for specific airport. Determine minimum runway length required from Table 1.

Takeoff with anti-skid inoperative is not authorized on a wet runway, with runway clutter, tailwind, or any weight greater than 328,000 lbs.

NOSE GEAR SPOILER OPERATION MUST BE OPERATIVE AND 15 FLAPS MUST BE USED.

BASED ON FLAPS 15°

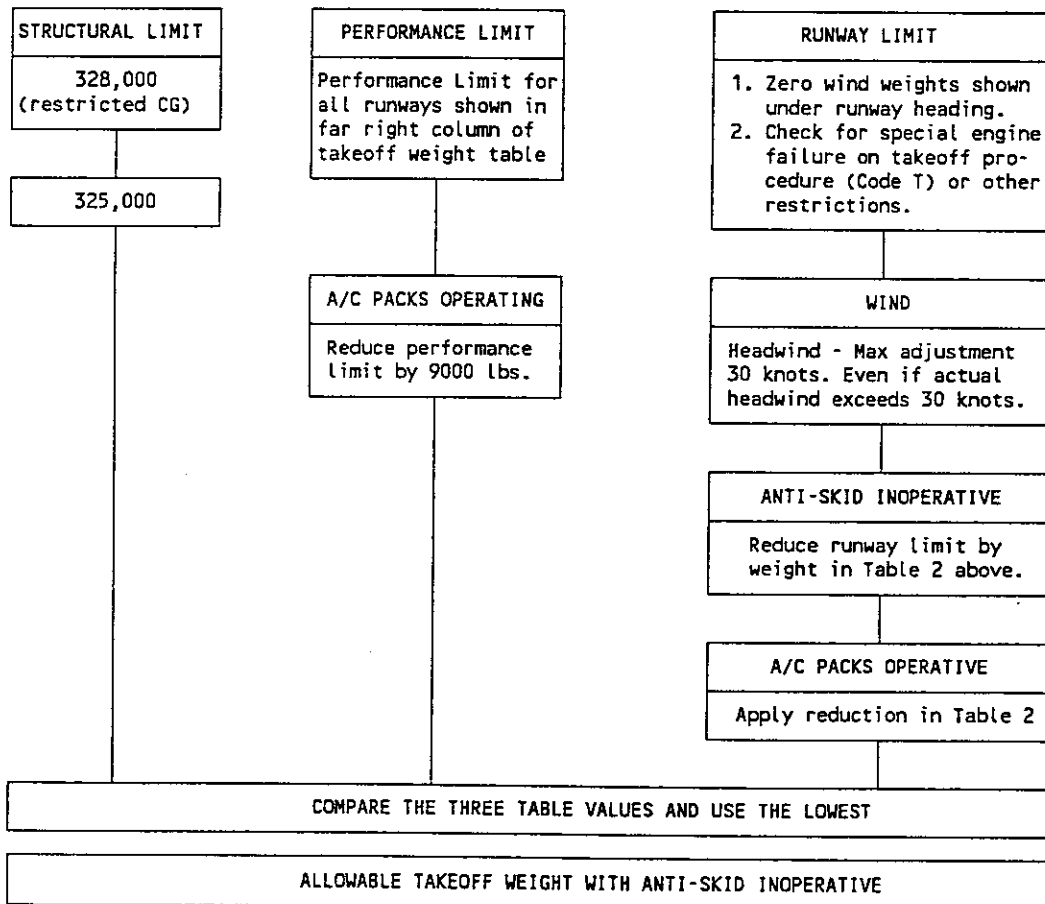
TABLE 1 - RUNWAY LENGTH REQUIRED

Minimum runway required with anti-skid inoperative:	
Press Alt (ft)	Min Runway (ft)
SL - 1100	6990
1100 - 1750	7500
1750 - 2750	8000
2750 - 3500	8500
3500 - 4500	9000
4500 - 5500	9750
5500 - 6500	10250

USE LIMIT N1 THRUST

TABLE 2 - A/C PACKS OPERATING ADJUSTMENT

Reduce Runway Limit Weight By	When Gross Weight is (1000 lbs)
8000 lbs	260.0 or less
9500 lbs	260.0 - 280.0
11000 lbs	280.0 - 300.0
13000 lbs	300.0 - 325.0
15000 lbs	325.0 or more





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TAKEOFF THRUST N1

Two thrust settings are available for takeoff, limit N1 and normal N1. These takeoff n1 settings are valid when:

- Set a 40 to 80 knots
- Engine/scoops anti-ice on or off

LIMIT N1

Limit N1 is the maximum thrust available.

1. Using reported airport temperature (or pressure altitude, if limiting) determine limit N1 from TAKEOFF THRUST table on page 4F-7.
2. If rain removal is on, reduce N1 by 0.4.
3. If airfoil de-ice is on, reduce N1 by 0.6.
4. Determine V speeds from TAKEOFF SPEEDS, page 4F-3.

NORMAL N1

Normal N1 is the thrust required under normal conditions and results in reduced engine wear and fuel consumption.

Do NOT use normal takeoff thrust when:

- Takeoff runway has standing water, ice, slush, or snow
- Anti-skid is inoperative
- Takeoff is to be made with a tailwind
- Any PMC is inoperative
- OAT is below -60°F
- The aircraft has been de-iced
- Anti-ice bleed is required
- Runway length is less than that shown in the following table:
- Windshear is reported or forecast
- MEL or CDL items require adjustment to takeoff weight or V speeds.

AIRPORT ELEVATION	RUNWAY LENGTH - FEET
4,000 Feet and above	10,000
2,000 TO 4,000 feet	9,500
SL to 2,000 feet	8,500





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TAKEOFF THRUST - CFM 56

PRESS ALT	ASSUMED OR REPORTED TEMP F	REPORTED AIRPORT TEMPERATURE °F														
		-20.	-10.	0.	10.	20.	30.	40.	50.	60.	70.	80.	90.	100.	110.	120.
	130	76.8	77.7	78.5	79.4	80.2	81.0	81.9	82.7	83.5	84.3	85.1	85.9	86.6	87.4	88.2
	128	77.1	77.9	78.8	79.6	80.5	81.3	82.1	83.0	83.8	84.6	85.4	86.2	86.9	87.7	88.5
	126	77.3	78.2	79.1	79.9	80.8	81.6	82.4	83.3	84.1	84.9	85.7	86.5	87.2	88.0	88.8
	124	77.6	78.5	79.4	80.2	81.1	81.9	82.7	83.6	84.4	85.2	86.0	86.8	87.6	88.3	89.1
	122	77.9	78.8	79.6	80.5	81.4	82.2	83.0	83.9	84.7	85.5	86.3	87.1	87.9	88.7	89.4
	120	78.2	79.1	79.9	80.8	81.6	82.5	83.3	84.2	85.0	85.8	86.6	87.4	88.2	89.0	89.8
	118	78.5	79.3	80.2	81.1	81.9	82.8	83.6	84.5	85.3	86.1	86.9	87.7	88.5	89.3	90.1
	116	78.7	79.6	80.5	81.4	82.2	83.1	83.9	84.8	85.6	86.4	87.2	88.0	88.8	89.6	90.4
	114	79.0	79.9	80.8	81.7	82.5	83.4	84.2	85.1	85.9	86.7	87.6	88.4	89.2	90.0	90.7
	112	79.3	80.2	81.1	82.0	82.8	83.7	84.6	85.4	86.2	87.1	87.9	88.7	89.5	90.3	91.1
	110	79.6	80.5	81.4	82.3	83.1	84.0	84.9	85.7	86.5	87.4	88.2	89.0	89.8	90.6	91.4
	108	79.9	80.8	81.7	82.6	83.4	84.3	85.2	86.0	86.9	87.7	88.5	89.3	90.1	90.9	→
	106	80.2	81.1	82.0	82.9	83.8	84.6	85.5	86.3	87.2	88.0	88.8	89.7	90.5	91.3	→
	104	80.5	81.4	82.3	83.2	84.1	84.9	85.8	86.6	87.5	88.3	89.2	90.0	90.8	91.6	→
	102	80.8	81.7	82.6	83.5	84.4	85.2	86.1	87.0	87.8	88.6	89.5	90.3	91.1	91.9	→
	100	81.1	82.0	82.9	83.8	84.7	85.5	86.4	87.3	88.1	89.0	89.8	90.6	91.5	92.3	→
	98	81.4	82.3	83.2	84.1	85.0	85.9	86.7	87.6	88.4	89.3	90.1	91.0	91.8	→	→
	96	81.7	82.6	83.5	84.4	85.3	86.2	87.0	87.9	88.8	89.6	90.5	91.3	92.1	→	→
	94	81.9	82.9	83.8	84.7	85.6	86.5	87.4	88.2	89.1	89.9	90.8	91.6	92.5	→	→
	92	82.2	83.2	84.1	85.0	85.9	86.8	87.7	88.5	89.4	90.3	91.1	92.0	92.8	→	→
	90	82.5	83.5	84.4	85.3	86.2	87.1	88.0	88.9	89.7	90.6	91.4	92.3	93.1	→	→
	88	82.8	83.8	84.7	85.6	86.5	87.4	88.3	89.2	90.1	90.9	91.8	92.6	→	→	→
SL	86	83.1	84.1	85.0	85.9	86.8	87.7	88.6	89.5	90.4	91.2	92.1	92.9	→	→	→
	84	83.4	84.4	85.3	86.2	87.1	88.0	88.9	89.8	90.7	91.6	92.4	93.3	→	→	→
	82	83.7	84.7	85.6	86.5	87.4	88.3	89.2	90.1	91.0	91.9	92.7	93.6	→	→	→
	80	84.0	85.0	85.9	86.8	87.7	88.7	89.6	90.5	91.3	92.2	93.1	93.9	→	→	→
2t	78	84.3	85.3	86.2	87.1	88.1	89.0	89.9	90.8	91.7	92.5	93.4	→	→	→	→
	76	84.6	85.6	86.5	87.4	88.4	89.3	90.2	91.1	92.0	92.9	93.7	→	→	→	→
	74	84.9	85.8	86.8	87.7	88.7	89.6	90.5	91.4	92.3	93.2	94.0	→	→	→	→
4t	72	85.2	86.1	87.1	88.0	89.0	89.9	90.8	91.7	92.6	93.5	94.4	→	→	→	→
	70	85.5	86.4	87.4	88.3	89.3	90.2	91.1	92.0	92.9	93.8	94.7	→	→	→	→
	68	85.8	86.7	87.7	88.6	89.6	90.5	91.4	92.3	93.2	94.1	→	→	→	→	→
6t	66	86.0	87.0	88.0	88.9	89.9	90.8	91.7	92.6	93.5	94.4	→	→	→	→	→
	64	86.3	87.3	88.3	89.2	90.2	91.1	92.0	92.9	93.9	94.8	→	→	→	→	→
	62	86.6	87.6	88.6	89.5	90.5	91.4	92.3	93.3	94.2	95.1	→	→	→	→	→
	60	86.9	87.9	88.8	89.8	90.8	91.7	92.6	93.6	94.5	95.4	→	→	→	→	→
8t	58	87.2	88.2	89.1	90.1	91.1	92.0	92.9	93.9	94.8	→	→	→	→	→	→
	56	87.4	88.4	89.4	90.4	91.3	92.3	93.2	94.2	95.1	→	→	→	→	→	→

NOTE: Reduce limit and normal N<sub>1</sub> by 0.5 when taking off with air conditioning packs on. When limited by pressure altitude, reduce limit and normal N<sub>1</sub> by an additional 0.05 for each 1,000 feet above 5,000 feet pressure altitude.

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MAXIMUM CLIMB THRUST - N<sub>1</sub>

RAT °C	TEMP LIMITED N <sub>1</sub>	ALTITUDE - FEET									
		SL	5000	10000	15000	20000	25000	30000	35000	40000	42000
50	85.8										
46	86.6										
42	87.5										
38	88.4										
34	89.4	89.1									
30	90.4	88.5									
26	91.4	87.9	90.8								
22	92.4	87.4	90.2	92.4							
18	93.3	86.8	89.6	91.8							
14	94.1	86.2	89.0	91.2	93.1						
10	94.8	85.6	88.3	90.3	92.5	94.2				94.5	94.5
6	95.4	85.0	87.7	89.9	91.8	93.6	95.2			95.0	95.0
2	95.9	84.3	87.1	89.3	91.2	92.8	94.6			95.5	95.5
-2	96.1	83.7	86.5	88.6	90.5	92.2	93.9	95.8		95.8	95.8
-6	96.2	83.1	85.8	88.0	89.8	91.6	93.2	95.1		95.8	95.9
-10	96.2	82.5	85.2	87.3	89.2	90.9	92.5	94.4		95.8	95.4
-14	95.9	81.9	84.5	86.7	88.5	90.2	91.9	93.6	95.9	95.2	94.7
-18	95.2	81.2	83.9	86.0	87.8	89.5	91.1	92.9	95.1	94.5	94.0
-22		80.6	83.2	85.3	87.1	88.8	90.4	92.2	94.5	93.7	93.2
-26		79.9	82.5	84.6	86.4	88.1	89.7	91.5	93.7	93.1	92.5
-30		79.3	81.9	83.9	85.7	87.4	89.0	90.7	92.9	92.2	91.7
-34	USE ALTITUDE LIMITED N <sub>1</sub>	78.6	81.2	83.2	85.0	86.6	88.2	89.9	92.2	91.4	91.0
-38		78.0	80.5	82.5	84.3	85.9	87.5	89.2	91.4	90.7	90.2
-42		77.3	79.8	81.8	83.6	85.2	86.8	88.4	90.7	89.9	89.4
-46		76.7	79.2	81.1	82.8	84.4	86.0	87.7	89.9	89.1	88.7
-50		76.0	78.5	80.4	82.1	83.7	85.2	86.9	89.0	88.3	87.9

Max Climb Thrust N<sub>1</sub> values shown are based on Normal Bleed and two air conditioning packs on at maximum setting.

NOTE: When N<sub>1</sub> is limited by both temperature and altitude, use lesser value.

N<sub>1</sub> ADJUSTMENTS

BLEED CONDITION	ALTITUDE - FEET			
	SL-25000	30000	35000	40000
RAIN REMOVAL ..... ON	-.3	-.5	-.6	-.9
COWL ICE PROTECTION ... ON	-.8	-1.1	-1.3	-1.8
COWL PLUS AIRPLANE ICE PROTECTION ..... ON	-1.5	-1.9	-2.5	-3.3



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MAXIMUM CONTINUOUS THRUST - N<sub>1</sub>  
3 ENGINES OPERATING

Recommended for 3 engine operation. N<sub>1</sub> values shown are based on 3 engines operating or 1 bleed system inoperative and two air conditioning packs on at maximum setting.

RAT °C	TEMP LIMITED N <sub>1</sub>	ALTITUDE - FEET									
		SL	5000	10000	15000	20000	25000	30000	35000	40000	42000
50	87.4										
46	88.0										
42	88.7										
38	89.4										
34	90.1										
30	91.7	90.1									
26	91.3	89.5									
22	91.8	88.9	91.8								
18	92.4	88.3	91.2								
14	93.0	87.7	90.5	92.8							
10	93.6	87.0	89.9	92.2							
6	94.1	86.4	89.2	91.5	94.0						
2	94.7	85.8	88.6	90.9	93.3						
-2	95.3	85.2	88.0	90.2	92.6	95.1					
-6	95.9	84.6	87.3	89.6	91.9	94.4					
-10	96.6	84.0	86.7	88.9	91.2	93.6	96.0				
-14	97.2	83.3	86.0	88.3	90.5	92.9	95.3				
-18	97.8	82.7	85.4	87.6	89.8	92.2	94.5	94.8			97.1
-22	98.0	82.1	84.7	86.9	89.1	91.4	93.8	94.2		97.2	96.3
-26		81.4	84.0	86.2	88.4	90.7	93.0	93.7		96.4	95.5
-30		80.8	83.4	85.5	87.7	90.0	92.3	93.1	97.8	96.4	95.5
-34		80.1	82.7	84.8	87.0	89.3	91.5	92.6	97.0	95.6	94.7
-38	USE ALTITUDE LIMITED N <sub>1</sub>	79.4	82.0	84.1	86.3	88.5	90.8	92.0	96.2	94.8	93.9
-42		77.7	81.3	83.4	85.5	87.8	90.0	91.5	95.4	94.1	93.1
-46		78.1	80.6	82.7	84.8	87.1	89.3	90.9	94.6	93.3	92.3
-50		77.4	79.9	82.0	84.0	86.3	88.5	90.4	93.8	92.5	91.5
		76.7	79.2	81.2	83.3	85.6	87.8	89.8	92.2	91.7	90.7

NOTE: When N<sub>1</sub> is limited by both temperature and altitude, use lesser value.

N<sub>1</sub> ADJUSTMENTS

CONFIGURATION	BLEED CONDITION	ALTITUDE - FEET			
		SL-25000	30000	35000	40000
ALL ENGINES OPERATING	2 A/C PACKS ON AT MAX	+ .4	+ .5	+ .6	+ 1.0
	RAIN REMOVAL ..... ON	- .3	- .5	- .6	- .9
	COWL ICE PROTECTION ... ON	- .8	- 1.1	- 1.3	- 1.8
	COWL PLUS AIRPLANE ICE PROTECTION ..... ON	- 1.5	- 1.9	- 2.5	- 3.3
3 ENGINES OPERATING OR 1 BLEED SYSTEM INOP	RAIN REMOVAL ..... ON	- .5	- .6	- .8	- 1.3
	COWL ICE PROTECTION ... ON	- 1.1	- 1.3	- 1.7	- 2.3
	COWL PLUS AIRPLANE ICE PROTECTION ..... ON	- 1.9	- 2.3	- 3.1	- 4.2

Adjust N<sub>1</sub> as appropriate to airplane configuration, bleed condition and altitude.



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MAXIMUM COUNTINUOUS THRUST - N<sub>1</sub>  
2 ENGINES OPERATING

Recommended for 2 engine operation. N<sub>1</sub> values shown are based on 2 engines operating, normal bleed and one air conditioning packs on at maximum setting.

RAT °C	TEMP LIMITED N <sub>1</sub>	ALTITUDE - FEET									
		SL	5000	10000	15000	20000	25000	30000	35000	40000	42000
50	87.7										
46	88.4										
42	89.1	89.6									
38	89.8	89.0									
34	90.4	88.5									
30	91.1	87.9									
26	91.6	87.3	92.3								
22	92.2	86.7	91.7								
18	92.8	86.1	91.1	93.6							
14	93.3	85.5	90.4	92.9							
10	93.9	84.9	89.8	92.3	94.8						
6	94.4	84.3	89.2	91.6	94.2						
2	95.0	83.7	88.5	91.0	93.5	95.9					
-2	95.6	83.1	87.9	90.3	92.8	95.3					
-6	96.2	82.5	87.2	89.6	92.1	94.6	96.8				
-10	96.9	81.9	86.6	88.9	91.4	93.9	96.1				
-14	97.5	81.3	85.9	88.3	90.7	93.1	95.3	97.5			
-18	98.2	80.6	85.3	87.6	90.0	92.4	94.6	96.7	97.8	97.4	
-22	98.6	80.0	84.6	86.9	89.3	91.7	93.9	95.9	98.4	97.5	96.7
-26		79.4	83.9	86.2	88.6	90.9	93.1	95.2	97.6	96.7	95.9
-30		78.7	83.2	85.5	87.9	90.2	92.3	94.4	96.8	95.9	95.1
-34	USE ALTITUDE LIMITED N <sub>1</sub>	78.1	82.5	84.8	87.2	89.5	91.6	93.6	96.0	95.1	94.3
-38		77.4	81.8	84.1	86.4	88.7	90.8	92.8	95.2	94.3	93.5
-42		76.8	81.2	83.4	85.7	88.0	90.0	92.1	94.4	93.5	92.8
-46		76.1	80.4	82.7	84.9	87.2	89.2	91.3	93.6	92.7	91.9
-50		75.4	79.7	81.9	84.2	86.4	88.5	90.5	92.8	91.9	91.1

NOTE: When N<sub>1</sub> is limited by both temperature and altitude, use lesser value.

N<sub>1</sub> ADJUSTMENTS

CONFIGURATION	BLEED CONDITION	ALTITUDE - FEET			
		SL-25000	30000	35000	40000
2 ENGINES OR 2 BLEED SYSTEMS INOP	RAIN REMOVAL .....ON	-.6	-.8	-1.0	-1.4
	COWL ICE PROTECTION ... ON	-1.2	-1.5	-1.9	-2.5
	COWL PLUS AIRPLANE ICE PROTECTION ..... ON	-2.2	-2.7	-3.4	-4.5

Adjust N<sub>1</sub> by value appropriate to airplane configuration, bleed condition and altitude.





DC-8-71 1.3 G-LOAD KNOTS I.A.S.

FLIGHT LEVEL	GROSS WEIGHT X 1000 LBS																
	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340
410	181	188	195	201	X	X	X	X	X	X	X	X	X	X	X	X	X
390	176	183	190	195	203	210	219	X	X	X	X	X	X	X	X	X	X
370	174	180	186	191	198	204	211	218	225	X	X	X	X	X	X	X	X
350	172	177	183	188	195	201	206	213	218	225	231	239	X	X	X	X	X
330	171	175	182	186	192	194	203	209	213	219	224	230	237	244	252	X	X
310	309	309	309	309	308	307	306	304	304	302	301	300	298	295	291	X	X
	170	175	181	185	190	195	201	205	210	215	220	226	232	237	243	249	255
	323	323	323	323	323	322	322	321	320	320	319	317	315	313	311	308	305
290	170	175	180	184	190	194	198	203	208	213	217	223	228	233	237	242	248
	335	335	335	335	335	335	335	335	334	334	333	332	331	330	329	327	325
270	170	175	180	184	190	194	196	202	206	211	215	220	225	229	234	238	243
	347	347	347	347	347	347	347	347	346	346	345	343	342	340	339	339	337

LOW AND HIGH SPEED BUFFET MARGIN

DC-8-71 1.5 G-LOAD KNOTS I.A.S.

FLIGHT LEVEL	GROSS WEIGHT X 1000 LBS																
	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340
410	201	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
390	195	203	211	X	X	X	X	X	X	X	X	X	X	X	X	X	X
370	191	198	204	212	221	X	X	X	X	X	X	X	X	X	X	X	X
350	187	194	201	208	215	222	230	239	X	X	X	X	X	X	X	X	X
	295	295	294	294	290	287	283	276									
330	186	192	198	204	211	217	223	230	237	245	X	X	X	X	X	X	X
	309	308	307	306	304	303	300	300	298	293							
310	185	190	196	202	208	213	219	226	232	238	245	252	260	X	X	X	X
	323	323	323	322	321	320	319	317	315	313	310	307	306				
290	184	189	194	200	206	211	216	222	228	233	239	245	251	258	265	X	X
	336	336	336	335	335	334	333	332	331	329	327	326	324	322	321	X	X
270	184	189	194	199	204	209	214	220	225	230	235	241	247	252	258	264	X
	348	348	348	348	347	347	347	345	343	341	340	338	336	334	331	328	328



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4 - ENGINE LONG-RANGE CRUISE - CFM 56

N<sub>1</sub> and NAM/1000# are for listed indicated Mach number. When operating in region to left of heavy line, determine and set max cruise N<sub>1</sub> if less than listed value.

FLIGHT LEVEL STD. TEMP.	GROSS WEIGHT (1,000 LBS.)																													
	320	310	300	290	280	270	260	250	240	230	220	210	200	190	180															
410 -56 C	<div style="border: 1px solid black; padding: 5px; display: inline-block;">                     N<sub>1</sub> MACH TAS NAM                 </div>																								90.7	89.4	88.2	87.0	85.8	84.7
																									.803	.803	.801	.798	.792	.786
										461	462	460	459	455	452															
										46.4	48.5	50.6	52.8	55.0	57.0															
390 -56 C										90.2	88.9	87.8	86.8	85.7	84.8	83.7	82.6													
										.802	.800	.797	.795	.790	.786	.778	.761													
										461	460	458	457	454	452	447	443													
										43.4	45.3	47.1	48.7	50.6	52.2	54.3	56.5													
370 -56 C										90.7	89.6	88.6	87.6	86.6	85.6	84.8	83.8	82.7	81.6	80.6										
										.803	.803	.802	.800	.797	.787	.780	.774	.764	.755	.755										
										462	461	461	460	458	455	448	444	439	434	434										
										39.4	40.9	42.3	43.7	45.2	46.8	48.1	49.8	51.7	53.3	54.8										
350 -54 C	92.2	91.1	90.1	89.1	88.3	87.4	86.5	85.7	84.9	84.0	83.0	82.0	81.0	80.1	79.1	78.2														
	.800	.804	.804	.803	.803	.800	.799	.794	.787	.779	.770	.761	.751	.741	.731	.721														
	461	462	462	461	461	459	458	455	453	450	446	441	436	430	424	424														
	35.1	36.3	37.5	38.7	39.9	41.1	42.3	43.5	44.6	46.1	47.7	49.0	50.4	51.6	52.9	52.9														
330 -50 C	90.2	89.3	88.5	87.6	86.8	86.1	85.3	84.4	83.6	82.7	81.8	80.9	80.0	79.1	78.2															
	.803	.801	.799	.796	.793	.788	.782	.777	.772	.765	.757	.748	.738	.728	.718															
	468	467	466	464	462	459	456	453	450	446	441	436	430	423	415															
	35.0	36.0	37.0	38.1	39.2	40.2	41.4	42.7	43.9	45.1	46.2	47.2	48.3	49.4	50.5															
310 -46 C	88.4	87.7	87.0	86.3	85.6	84.7	83.9	83.1	82.3	81.5	80.7	79.8	78.9	78.0	77.0															
	.795	.792	.789	.784	.780	.774	.768	.762	.756	.746	.737	.724	.712	.700	.686															
	468	466	464	461	459	455	452	448	444	439	433	426	418	411	403															
	34.7	35.7	36.6	37.5	38.6	39.8	40.7	41.7	42.6	43.4	44.3	45.3	46.2	47.1	48.4															
290 -42 C	87.2	86.5	85.8	85.0	84.3	83.5	82.8	82.1	81.4	80.5	79.7	78.8	77.7	76.5	75.3															
	.787	.783	.778	.773	.767	.761	.754	.747	.739	.728	.717	.701	.685	.673	.660															
	467	464	461	458	455	451	447	443	438	432	425	416	406	399	391															
	34.2	35.1	36.1	37.1	37.9	38.7	39.4	40.1	40.9	41.7	42.4	43.2	44.3	45.8	47.4															
270 -38 C	85.9	85.2	84.4	83.7	83.1	82.4	81.7	81.0	80.3	79.5	78.6	77.4	76.1	74.8	73.6															
	.774	.768	.763	.757	.751	.742	.734	.724	.715	.703	.691	.676	.662	.648	.634															
	463	460	456	453	449	444	439	433	428	420	413	404	396	387	379															
	34.0	34.7	35.4	36.0	36.6	37.3	37.9	38.6	39.2	39.9	40.7	42.0	43.5	44.7	45.6															
250 -34 C	84.6	84.0	83.4	82.8	82.2	81.5	80.7	80.0	79.2	78.0	76.9	75.7	74.5	73.2	71.9															
	.760	.754	.748	.742	.735	.724	.713	.702	.691	.678	.665	.652	.638	.623	.607															
	458	455	451	447	443	437	430	423	417	409	401	393	385	375	366															
	33.1	33.6	34.1	34.7	35.2	35.8	36.4	36.9	37.6	38.8	40.0	41.2	41.9	42.7	43.6															
230 -30 C	83.6	82.9	82.3	81.7	81.1	80.4	79.6	78.5	77.5	76.4	75.3	74.1	73.0	71.7	70.4															
	.741	.733	.726	.718	.710	.699	.689	.677	.666	.653	.640	.627	.613	.598	.583															
	451	446	442	437	432	425	419	412	405	397	389	381	373	364	355															
	31.9	32.4	32.9	33.3	33.8	34.3	35.0	36.0	37.0	38.1	38.7	39.4	40.2	41.0	41.9															
210 -26 C	82.6	82.0	81.4	80.7	79.8	78.9	77.9	76.9	75.9	74.8	73.7	72.6	71.4	70.1	68.8															
	.722	.713	.704	.695	.685	.675	.664	.652	.641	.628	.615	.602	.588	.574	.560															
	442	437	432	426	420	414	407	400	393	385	377	369	361	352	343															
	30.7	31.1	31.5	32.0	32.8	33.6	34.5	35.4	35.9	36.5	37.2	37.9	38.6	39.5	40.5															
190 -22 C	81.7	80.9	80.0	79.1	78.2	77.3	76.3	75.3	74.4	73.3	72.2	71.0	69.9	68.6	67.4															
	.700	.691	.681	.671	.661	.650	.640	.628	.616	.604	.592	.579	.566	.552	.539															
	433	427	421	415	408	402	395	388	381	373	366	358	349	341	332															
	29.4	30.0	30.7	31.5	32.3	32.9	33.4	33.9	34.5	35.1	35.7	36.5	37.3	38.1	39.1															
170 -18 C	80.2	79.3	78.4	77.5	76.6	75.7	74.8	73.8	72.8	71.8	70.7	69.6	68.5	67.3	66.2															
	.677	.667	.657	.647	.637	.626	.615	.604	.593	.582	.570	.558	.545	.533	.520															
	421	415	409	403	397	390	383	376	369	362	355	347	339	331	323															
	28.8	29.5	30.2	30.7	31.1	31.5	32.0	32.5	33.1	33.7	34.4	35.1	35.9	36.6	37.0															
150 -14 C	78.6	77.7	76.8	76.0	75.1	74.2	73.2	72.2	71.3	70.2	69.2	68.2	67.1	66.1	65.0															
	.653	.643	.633	.623	.613	.602	.591	.581	.570	.559	.548	.537	.525	.513	.501															
	410	404	397	391	385	378	371	364	358	351	344	336	329	321	314															
	28.3	28.6	29.0	29.4	29.9	30.3	30.8	31.4	31.9	32.6	33.2	33.9	34.3	34.6	35.0															
130 -10 C	77.1	76.2	75.4	74.5	73.6	72.7	71.8	70.8	69.9	68.9	68.0	67.0	66.0	64.8	63.1															
	.630	.620	.610	.601	.591	.581	.570	.560	.550	.540	.529	.519	.508	.497	.485															
	398	392	386	380	374	367	360	354	348	341	334	327	321	313	306															
	27.2	27.5	27.9	28.3	28.7	29.2	29.7	30.3	30.8	31.4	31.8	32.1	32.5	33.0	34.1															

ADJUSTMENTS: TAS (knots) is for standard temperature. Add 1 knot/°C above standard.  
Subtract 1 knot/°C below standard.

N<sub>1</sub> shown is for standard temperature. Add .2 N<sub>1</sub> per °C above standard. Subtract .2 N<sub>1</sub> per °C below standard.



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4-ENGINE MACH .78 CRUISE - CFM 56

N<sub>1</sub> and NAM/1000# are for an indicated Mach 0.78. When operating in region to left of heavy line, determine and set Max Cruise N<sub>1</sub> if less than listed value.

FLIGHT LEVEL STANDARD TEMPERATURE	TAS IAS	GROSS WEIGHT - 1000 LBS.															
		320	310	300	290	280	270	260	250	240	230	220	210	200	190	180	
420 -56	448 224											89.8 49.1	88.5 51.2	87.2 53.6	86.2 55.7	85.2 57.8	
410 -56 C	448 229										89.6 47.3	88.4 49.3	87.2 51.4	86.2 53.3	85.3 55.3	84.5 57.2	
390 -56 C	448 240			N <sub>1</sub> NAM/1000#						89.2 44.1	88.1 45.8	87.0 47.6	86.2 49.2	85.3 50.8	84.5 52.4	83.8 53.9	83.2 55.4
370 -56 C	448 252			90.9 38.5	90.3 39.3	89.6 40.1	88.6 41.4	87.7 42.9	86.7 44.4	85.9 45.6	85.2 47.0	84.5 48.3	83.8 49.5	83.2 50.8	82.6 52.1	82.0 53.2	
350 -54 C	451 264	90.7 36.2	90.1 36.9	89.3 37.9	88.4 39.1	87.5 40.3	86.7 41.4	86.0 42.5	85.3 43.7	84.7 44.7	84.1 45.7	83.6 46.8	83.0 47.9	82.4 48.8	81.9 49.8	81.4 50.7	
330 -50 C	455 276	89.2 35.5	88.4 36.5	87.7 37.5	87.0 38.5	86.4 39.4	85.7 40.4	85.2 41.3	84.7 42.2	84.2 43.1	83.6 44.0	83.1 44.8	82.6 45.6	82.1 46.4	81.7 47.1	81.3 47.8	
310 -46 C	459 289	87.8 35.0	87.2 35.9	86.6 36.7	86.1 37.5	85.7 38.3	85.2 39.1	84.7 40.0	84.2 40.6	83.7 41.3	83.2 42.0	82.8 42.6	82.4 43.2	82.0 43.8	81.6 44.5	81.3 45.0	
290 -42 C	463 301	86.9 34.3	86.5 35.0	86.1 35.6	85.6 36.4	85.1 37.1	84.7 37.6	84.2 38.2	83.8 38.8	83.4 39.3	83.1 39.8	82.7 40.3	82.3 40.8	82.0 41.3	81.8 41.7	81.5 42.1	

ADJUSTMENTS: TAS (knots) is for standard temperature. Add 1 knot/°C above standard. Subtract 1 knot/°C below standard.

N<sub>1</sub> shown is for standard temperature. Add .2 N<sub>1</sub> per °C above standard. Subtract .2 N<sub>1</sub> per °C below standard.

$$\text{Fuel consumption (1000\#/hr)} = \frac{\text{TAS FOR ACTUAL TEMPERATURE}}{\text{NAM/1000\#}}$$





DC-8-71

4-ENGINE MACH .80 CRUISE - CFM 56

N<sub>1</sub> and NAM/1000# are for an indicated Mach 0.80. When operating in region to left of heavy line, determine and set Max Cruise N<sub>1</sub> if less than listed value.

FLT LVL STD TEMP	TAS IAS	GROSS WEIGHT - 1000 LBS.														
		320	310	300	290	280	270	260	250	240	230	220	210	200	190	180
420 -56 C	460 231										92.0 46.2	90.4 48.7	89.1 50.9	87.9 53.0	86.9 55.1	85.9 57.1
410 -56 C	460 236									91.7 44.7	90.2 46.9	89.0 49.0	87.9 50.9	86.9 52.8	86.0 54.7	85.2 56.4
390 -56 C	460 247							91.0 42.2	89.8 43.9	88.7 45.6	87.8 47.1	86.8 48.7	86.0 50.3	85.3 51.7	84.6 53.1	84.0 54.5
370 -56 C	460 259				91.4 38.3	90.2 39.8	89.2 41.2	88.3 42.6	87.4 43.9	86.6 45.2	85.9 46.5	85.2 47.6	84.6 48.8	84.0 50.0	83.5 51.0	82.9 52.3
350 -54 C	462 271	91.9 35.3	90.8 36.6	89.9 37.7	88.9 38.9	88.2 39.9	87.4 41.0	86.7 42.2	86.1 43.1	85.5 44.1	84.9 45.1	84.4 46.0	83.9 46.9	83.4 48.0	82.9 48.9	82.4 49.7
330 -50 C	466 284	89.8 35.3	89.1 36.2	88.4 37.1	87.7 38.1	87.1 39.0	86.5 39.8	86.0 40.7	85.4 41.6	85.0 42.3	84.6 43.1	84.1 44.1	83.6 44.8	83.1 45.5	82.7 46.2	82.2 46.9
310 -46 C	470 297	88.5 34.7	87.9 35.5	87.4 36.2	86.9 36.9	86.4 37.7	86.0 38.4	85.6 39.1	85.1 39.8	84.7 40.6	84.2 41.2	83.8 41.8	83.4 42.4	83.0 43.0	82.7 43.6	82.4 44.0

ADJUSTMENTS: TAS (knots) is for standard temperature. Add 1 knot/°C above standard.  
Subtract 1 knot/°C below standard.

N<sub>1</sub> shown is for standard temperature. Add .2 N<sub>1</sub> per °C above standard.  
Subtract .2 N<sub>1</sub> per °C below standard.

$$\text{Fuel consumption (1000 lbs)} = \frac{\text{TAS FOR ACTUAL TEMPERATURE}}{\text{NAM/1000 LBS}}$$



DC-8-71

4-ENGINE MACH .80 CRUISE - CFM 56

N1 and NAM/1000# are for indicated Mach 0.80. When operating in region to left of heavy line, determine and set MAX Cruise N1 if less than listed value.

Flight Level Std.Temp	TAS IAS	GROSS WEIGHT - 1000 LBS.														
		320	310	300	290	280	270	260	250	240	230	220	210	200	190	180
420 -56 C	471 237										93.9 44.5	92.0 46.7	90.4 49.2	89.1 51.5	87.9 53.7	86.9 55.7
410 -56 C	471 243			N1 NAM/1000#				95.5 41.2	93.7 43.0	91.8 45.1	90.3 47.3	89.1 49.4	87.9 51.4	87.0 53.2	86.1 55.2	
390 -56 C	471 254					94.6 38.8	92.9 40.3	91.2 42.3	90.0 44.1	88.9 45.8	87.9 47.5	87.0 49.0	86.2 50.6	85.5 52.0	84.9 53.3	
370 -56 C	471 266			94.9 35.6	93.4 36.8	91.8 38.3	90.5 39.9	89.5 41.3	88.5 42.8	87.6 44.1	86.3 45.3	86.1 46.7	85.5 47.8	84.9 48.9	84.4 50.0	83.9 51.0
350 -54 C	474 279	93.9 33.9	92.4 35.1	91.2 36.5	90.2 37.7	89.3 38.9	88.4 40.1	87.7 41.1	87.0 42.2	86.3 43.3	85.8 44.2	85.3 45.1	84.8 46.0	84.3 45.9	83.9 47.6	83.4 48.5
330 -50 C	478 292	91.1 34.1	90.2 35.2	89.4 36.2	88.7 37.1	88.1 38.0	87.4 39.0	86.8 39.9	86.4 40.6	85.9 41.4	85.4 42.2	85.0 43.0	84.6 43.7	84.2 44.4	83.8 45.1	83.4 45.7
310 -46 C	482 305	89.5 33.8	89.0 34.5	88.4 35.3	87.8 36.2	87.3 36.9	86.9 37.6	86.4 38.2	86.0 39.0	85.6 39.6	85.3 40.2	84.9 40.9	84.5 41.4	84.1 41.9	83.8 42.4	83.5 42.9
290 -42 C	486 318	88.6 33.0	88.1 33.7	87.7 34.2	87.3 34.8	86.9 35.4	86.5 36.1	86.2 36.6	85.9 37.2	85.5 37.7	85.2 38.2	84.8 38.6	84.5 39.0	84.2 39.4	83.9 39.8	83.6 40.3
270 -38 C	491 332	88.1 31.9	87.8 32.4	87.4 33.0	87.1 33.5	86.8 34.0	86.4 34.5	86.1 34.9	85.8 35.3	85.5 35.6	85.2 36.0	84.9 36.3	84.6 36.7	84.3 37.1	84.1 37.3	83.9 37.6
250 -34 C	495 346	87.8 30.8	87.6 32.2	87.3 31.7	86.9 32.0	86.6 32.3	86.3 32.7	86.1 33.0	85.8 33.3	85.5 33.6	85.3 33.9	85.0 34.2	84.8 34.5	84.6 34.7	84.5 34.9	84.3 35.1
230 -30 C	499 360	87.7 29.5	87.4 29.8	87.1 30.1	86.9 30.4	86.6 30.6	86.4 30.8	86.1 31.1	85.9 31.4	85.7 31.6	85.5 31.9	85.3 32.0	85.1 32.2	85.0 32.4	84.8 32.6	84.6 32.8

ADJUSTMENTS: TAS (knots) is for standard temperature. Add 1 knot/°C above standard.  
Subtract 1 knot/°C below standard.

N1 shown is for standard temperature. Add .2 N1 per °C above standard.  
Subtract .2 N1 per °C below standard.

$$\text{Fuel consumption (1000\#/hr)} = \frac{\text{TAS FOR ACTUAL TEMPERATURE}}{\text{NAM/1000\#}}$$



DC-8-71

3-ENGINE LONG-RANGE CRUISE - CFM 56

N<sub>1</sub> and NAM/1000 pounds of fuel are for listed indicated Mach number. When operating in region left of heavy line, determine and set Max Continuous N<sub>1</sub> if less than listed value plus adjustment.

FLIGHT LEVEL STANDARD TEMPERATURE	GROSS WEIGHT - 1000 LBS.																
	320	310	300	290	280	270	260	250	240	230	220	210	200	190	180		
420 -56 C														97.7 .774 445 53.9	95.2 .765 440 56.5		
410 -56 C															95.4 .766 440 54.0	93.1 .757 435 56.5	
390 -56 C													95.5 .766 440 49.7	93.4 .758 436 51.8	91.2 .749 430 54.1	89.7 .739 425 56.3	
370 -56 C												93.3 .759 436 47.8	91.3 .750 431 49.8	89.9 .741 426 51.6	88.7 .731 420 53.3	87.4 .720 414 55.0	
350 -54 C												91.5 .750 433 46.2	90.3 .741 428 47.7	89.2 .732 423 49.0	88.0 .722 417 50.5	86.9 .711 411 52.0	87.7 .700 404 53.5
330 -50 C							93.3 .754 439 40.9	91.9 .747 435 42.4	90.8 .740 431 43.6	89.8 .731 426 44.8	88.8 .722 421 46.0	87.7 .712 415 47.3	86.6 .701 409 48.6	85.6 .690 402 50.0	84.3 .677 395 51.7		
310 -46 C					93.3 .751 442 37.9	92.2 .744 437 39.1	91.2 .737 433 40.1	90.3 .729 429 41.1	89.4 .721 424 42.2	88.4 .712 419 43.3	87.4 .702 413 44.4	86.4 .692 407 45.6	85.3 .680 400 47.0	84.1 .668 393 48.7	82.8 .654 384 50.2		
290 -42 C			93.3 .747 443 35.3	92.4 .741 439 36.1	91.6 .734 435 37.0	90.7 .727 431 37.9	89.8 .719 426 38.9	88.9 .710 421 39.8	88.0 .701 416 40.8	87.1 .691 410 41.9	86.1 .681 404 43.1	84.9 .670 397 44.5	83.7 .657 390 45.9	82.5 .644 382 47.0	81.2 .629 373 48.2		

ADJUSTMENTS: TAS (knots) is for standard temperature. Add 1 knot/°C above standard. Subtract 1 knot/°C below standard.

N<sub>1</sub> shown is for standard temperature. Increase N<sub>1</sub> .2% per °C above standard. Decrease N<sub>1</sub> .2% per °C below standard.

$$\text{Fuel consumption (1000\#/hr)} = \frac{\text{TAS FOR ACTUAL TEMPERATURE}}{\text{NAM/1000\#}}$$

DC-8-71

3-ENGINE LONG-RANGE CRUISE - CFM 56

N<sub>1</sub> and NAM/1000 pounds of fuel are for listed indicated Mach number. When operating in region left of heavy line, determine and set Max Continuous N<sub>1</sub> if less than listed value plus adjustment.

FLIGHT LEVEL STANDARD TEMPERATURE	GROSS WEIGHT - 1000 LBS.														
	320	310	300	290	280	270	260	250	240	230	220	210	200	190	180
270 -38 C	93.4	92.6	91.8	91.0	90.2	89.3	88.5	87.6	86.7	85.6	84.6	83.4	82.2	81.0	79.7
	.743	.737	.730	.723	.716	.708	.699	.690	.681	.670	.659	.647	.633	.620	.605
	444	441	437	432	428	423	418	413	407	401	394	387	379	371	362
	32.8	33.5	34.3	35.1	36.0	36.8	37.7	38.6	39.7	41.0	42.2	43.1	44.1	45.1	46.2
250 -34 C	91.9	91.2	90.4	89.6	88.9	88.0	87.2	86.2	85.2	84.1	83.0	81.9	80.8	79.6	78.2
	.725	.719	.712	.704	.696	.688	.679	.669	.659	.648	.635	.623	.610	.596	.581
	437	433	429	425	420	415	410	403	397	391	383	376	368	359	350
	32.0	32.7	33.4	34.2	35.0	35.8	36.8	38.0	39.0	39.7	40.6	41.4	42.4	43.4	44.6
230 -30 C	90.5	89.8	89.1	88.3	87.4	86.5	85.6	84.7	83.7	82.7	81.6	80.5	79.3	78.1	76.5
	.706	.699	.692	.683	.675	.666	.657	.646	.636	.624	.612	.600	.587	.573	.558
	429	425	421	415	410	405	399	393	387	380	372	365	357	348	339
	31.2	31.9	32.6	33.4	34.4	35.4	36.1	36.8	37.5	38.2	39.0	39.9	40.8	41.9	43.6
210 -26 C	89.3	88.5	87.7	86.8	86.0	85.1	84.2	83.2	82.2	81.2	80.1	79.0	77.7	76.1	74.6
	.687	.679	.671	.662	.654	.644	.634	.623	.613	.601	.589	.577	.564	.550	.535
	421	416	411	406	401	395	389	382	375	368	361	353	345	337	328
	30.6	31.4	32.2	33.1	33.6	34.2	34.8	35.4	36.1	36.8	37.6	38.6	39.8	41.4	42.4
190 -22 C	87.8	87.0	86.2	85.4	84.5	83.6	82.7	81.8	80.8	79.7	78.6	77.2	75.7	74.2	72.7
	.666	.658	.650	.641	.632	.622	.612	.601	.590	.578	.567	.554	.541	.527	.514
	413	408	399	391	382	380	377	373	366	358	352	349	346	339	331
	30.3	30.9	31.3	31.8	32.4	32.9	33.5	34.1	34.8	35.6	36.6	38.0	39.0	39.9	40.9
170 -18 C	86.4	85.6	84.8	84.0	83.1	82.2	81.3	80.3	79.3	77.9	76.7	75.3	73.9	72.4	71.0
	.645	.637	.628	.620	.609	.599	.589	.578	.567	.556	.545	.533	.520	.506	.494
	402	396	391	386	379	373	367	360	353	346	339	331	324	315	307
	29.2	29.7	30.2	30.6	31.2	31.7	32.3	33.0	33.9	35.1	36.0	36.8	37.6	38.5	39.5
150 -14 C	85.0	84.2	83.4	82.7	81.7	80.8	79.7	78.5	77.3	76.0	74.7	73.4	72.1	70.5	69.2
	.624	.615	.606	.598	.587	.577	.566	.556	.545	.534	.523	.511	.499	.485	.474
	392	386	380	375	368	362	355	348	342	335	328	320	313	304	297
	28.2	28.6	29.1	29.6	30.1	30.7	31.6	32.6	33.4	34.0	34.7	35.5	36.3	37.4	38.5
130 -10 C	83.7	82.9	82.1	81.3	80.3	79.2	78.0	76.9	75.7	74.5	73.3	72.1	70.8	69.3	68.0
	.603	.595	.586	.578	.568	.558	.548	.539	.529	.518	.508	.497	.486	.473	.462
	381	376	370	365	359	353	347	340	334	327	321	314	307	298	292
	27.2	27.6	28.1	28.6	29.4	30.3	31.0	31.6	32.2	32.8	33.5	34.3	35.2	36.2	37.2
110 -06 C	82.3	81.6	80.6	79.6	78.6	77.5	76.4	75.3	74.3	73.1	71.9	70.7	69.5	68.1	66.9
	.582	.574	.566	.558	.549	.540	.531	.522	.513	.503	.493	.483	.473	.461	.451
	371	366	360	355	350	344	338	332	326	320	313	307	300	293	286
	26.4	26.9	27.6	28.4	28.9	29.4	29.9	30.5	31.1	31.7	32.4	33.2	34.1	34.9	35.4

ADJUSTMENTS: TAS (knots) is for standard temperature. Add 1 knot/°C above standard. Subtract 1 knot/°C below standard.

N<sub>1</sub> shown is for standard temperature. Increase N<sub>1</sub> .2% per °C above standard. Decrease N<sub>1</sub> .2% per °C below standard.

$$\text{Fuel consumption (1000\#/hr)} = \frac{\text{TAS FOR ACTUAL TEMPERATURE}}{\text{NAM/1000\#}}$$



DC-8-71

2-ENGINE LONG-RANGE CRUISE - CFM 56

N<sub>1</sub> and NAM/1000 pounds of fuel are for listed indicated Mach number.  
When operating in region left of heavy line, determine and set Max  
Continuous N<sub>1</sub> if less than listed value plus adjustment.

FLIGHT LEVEL STANDARD TEMPERATURE	GROSS WEIGHT - 1000 LBS.														
	320	310	300	290	280	270	260	250	240	230	220	210	200	190	180
290 -42 C														94.9 .625 371 46.1	92.7 .611 362 47.7
270 -38 C												96.1 .628 376 41.8	93.9 .615 368 43.4	92.4 .603 361 44.7	90.8 .590 353 46.2
250 -34 C									98.9 .640 386 36.9	96.9 .629 379 38.2	94.8 .617 372 39.6	93.4 .605 365 40.7	92.0 .594 358 42.0	90.5 .582 351 43.4	89.0 .570 344 44.9
230 -30 C							99.3 .638 388 33.9	97.4 .628 382 35.1	95.5 .617 375 36.3	94.3 .607 369 37.3	93.0 .596 362 38.4	91.6 .585 356 39.6	90.2 .574 349 40.9	88.7 .562 341 42.2	87.4 .551 335 43.6
210 -26 C						97.7 .626 374 33.5	96.1 .616 378 34.4	94.9 .606 371 35.3	93.7 .597 366 36.4	92.4 .587 360 37.4	91.2 .577 354 38.6	89.8 .566 347 39.8	88.6 .556 341 41.2	87.2 .544 333 42.8	85.7 .533 326 44.8
190 -22 C			99.4 .633 391 29.4	97.8 .625 385 30.3	96.5 .614 379 31.1	95.4 .605 374 31.9	94.3 .596 368 32.7	93.1 .587 362 33.6	91.9 .578 357 34.5	90.7 .568 351 35.5	89.5 .558 344 36.5	88.3 .549 339 37.6	86.9 .538 332 39.0	85.6 .528 326 40.1	84.1 .517 319 41.2
170 -18 C	99.2 .627 391 27.7	97.8 .620 386 28.4	96.8 .612 381 29.0	95.8 .603 376 29.7	94.7 .595 370 30.4	93.6 .586 365 31.2	92.5 .577 359 32.0	91.4 .568 354 32.8	90.3 .559 348 33.7	89.2 .550 342 34.6	87.9 .541 337 35.7	86.7 .532 331 36.8	85.4 .522 325 37.7	84.0 .512 318 38.7	82.7 .502 312 39.8

ADJUSTMENTS: TAS (knots) is for standard temperature. Add 1 knot/°C above standard. Subtract 1 knot/°C below standard.

N<sub>1</sub> shown is for standard temperature. Increase N<sub>1</sub> .2% per °C above standard. Decrease N<sub>1</sub> .2% per °C below standard.

$$\text{Fuel consumption (1000\#/hr)} = \frac{\text{TAS FOR ACTUAL TEMPERATURE}}{\text{NAM/1000\#}}$$

DC-8-71

2-ENGINE LONG-RANGE CRUISE - CFM 56

N<sub>1</sub> and NAM/1000 pounds of fuel are for listed indicated Mach number.  
When operating in region left of heavy line, determine and set Max  
Continuous N<sub>1</sub> if less than listed value plus adjustment.

FLT LVL STD TEMP	GROSS WEIGHT - 1000 LBS.														
	320	310	300	290	280	270	260	250	240	230	220	210	200	190	180
150 -14 C	96.9	96.0	95.0	93.9	92.9	91.8	90.8	89.8	88.6	87.4	86.3	85.1	83.9	82.6	81.2
	.606	.599	.591	.583	.575	.566	.558	.550	.541	.533	.524	.515	.506	.496	.486
	380	376	371	366	361	355	350	345	339	334	328	323	317	311	304
130 -10 C	27.2	27.8	28.5	29.1	29.8	30.6	31.3	32.1	33.0	34.0	34.8	35.6	36.4	37.4	38.6
	95.2	94.2	93.3	92.3	91.3	90.3	89.3	88.2	87.1	86.0	84.8	83.7	82.4	81.1	79.8
	.588	.580	.573	.565	.558	.550	.542	.534	.526	.518	.509	.500	.491	.481	.471
110 -6 C	371	367	362	357	352	347	342	338	332	327	322	316	310	303	297
	26.7	27.3	27.9	28.5	29.1	29.8	30.6	31.5	32.1	32.8	33.6	34.4	35.3	36.4	37.5
	93.5	92.6	91.7	90.7	89.7	88.7	87.7	86.7	85.6	84.5	83.4	82.2	81.0	79.7	78.3
90 -2 C	.569	.562	.555	.548	.541	.533	.526	.519	.511	.503	.494	.485	.476	.466	.456
	362	358	353	349	344	339	335	330	325	320	314	309	302	296	290
	26.1	26.7	27.2	27.8	28.6	29.3	29.8	30.4	31.1	31.8	32.5	33.4	34.4	35.5	36.7
70 1 C	86.4	85.5	84.7	84.0	83.3	82.6	81.9	81.2	80.6	80.0	79.4	78.8	78.1	77.4	76.3
	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.441
	285	285	285	285	285	285	285	285	285	285	285	285	285	285	282
50 5 C	25.2	25.9	26.6	27.3	28.0	28.8	29.5	30.3	31.1	31.8	32.6	33.3	34.0	34.7	35.6
	84.5	83.7	83.0	82.3	81.6	80.9	80.3	79.7	79.0	78.2	77.4	76.7	76.0	75.4	74.3
	.428	.428	.428	.428	.428	.428	.428	.428	.428	.428	.428	.428	.428	.428	.424
30 9 C	276	276	276	276	276	276	276	276	276	276	276	276	276	276	273
	24.6	25.2	25.9	26.6	27.3	28.1	28.8	29.6	30.2	30.9	31.6	32.3	33.0	33.7	34.6
	82.7	82.0	81.3	80.6	80.0	79.3	78.5	77.7	76.8	76.1	75.4	74.7	74.0	73.4	72.3
10 13 C	.412	.412	.412	.412	.412	.412	.412	.412	.412	.412	.412	.412	.412	.412	.407
	267	267	267	267	267	267	267	267	267	267	267	267	267	267	264
	23.9	24.6	25.3	26.0	26.7	27.2	27.8	28.6	29.3	30.0	30.7	31.4	32.1	32.8	33.7
10 13 C	81.1	80.4	79.8	79.1	78.2	77.3	76.5	75.7	75.0	74.3	73.6	72.9	72.2	71.0	69.4
	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.397	.380
	260	260	260	260	260	260	260	260	260	260	260	260	259	256	248
10 13 C	23.4	24.1	24.6	25.1	25.7	26.4	27.1	27.8	28.5	29.1	29.9	30.6	31.2	32.2	33.1
	79.6	78.7	77.8	77.0	76.1	75.3	74.6	73.8	73.1	72.5	71.8	71.2	70.4	68.7	66.5
	.385	.385	.385	.385	.385	.385	.385	.385	.385	.385	.385	.385	.385	.382	.353
10 13 C	253	253	253	253	253	253	253	253	253	253	253	253	252	244	232
	22.6	23.2	23.9	24.5	25.1	25.8	26.4	27.1	27.8	28.5	29.2	29.9	30.5	31.1	31.7

ADJUSTMENTS: TAS (knots) is for standard temperature. Add 1 knot/°C above standard. Subtract 1 knot/°C below standard.

N<sub>1</sub> shown is for standard temperature. Increase N<sub>1</sub> .2% per °C above standard. Decrease N<sub>1</sub> .2% per °C below standard.

$$\text{Fuel consumption (1000\#/hr)} = \frac{\text{TAS FOR ACTUAL TEMPERATURE}}{\text{NAM/1000\#}}$$



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MAX CRUISE THRUST - N<sub>1</sub>

RAT C	TEMP LIMITED N <sub>1</sub>	ALTITUDE - FEET									
		SL	5000	10000	15000	20000	25000	30000	35000	40000	42000
50	82.4										
46	83.1										
42	84.0										
38	84.5										
34	85.2	85.4									
30	85.9	84.9									
26	86.9	84.3	87.0								
22	88.5	83.7	86.4	88.7							
18	90.7	83.2	85.8	88.1	90.4						
14	93.9	82.6	85.2	87.5	89.8	92.1	93.8				
10	93.9	82.0	84.6	86.8	89.1	91.4	93.2				
6	93.8	81.4	84.0	86.2	88.5	90.7	92.6				
2	93.8	80.8	83.4	85.6	87.8	90.1	92.0	93.8			
-2	93.7	80.2	82.8	85.0	87.2	89.4	91.3	93.1			
-6	93.6	79.6	82.2	84.3	86.6	88.7	90.7	92.4			93.3
-10	93.6	79.0	81.6	83.7	86.0	88.0	90.0	91.7	94.0	93.3	92.7
-14		78.5	81.0	83.1	85.3	87.4	89.3	91.0	93.2	92.5	91.9
-18		77.9	80.3	82.5	84.6	86.7	88.6	90.3	92.5	91.8	91.2
-22		77.2	79.7	81.8	84.0	86.1	87.9	89.6	91.7	91.1	90.5
-26		76.6	79.0	81.2	83.3	85.4	87.2	88.7	91.0	90.3	89.8
-30	USE ALTITUDE LIMITED N <sub>1</sub>	76.0	78.4	80.5	82.6	84.7	86.5	88.2	90.2	89.6	89.0
-34		75.4	77.8	79.8	82.0	84.0	85.8	87.5	89.4	88.8	88.2
-38		74.7	77.1	79.1	81.3	83.3	85.1	86.7	88.7	88.1	87.5
-42		74.1	76.5	78.5	80.6	82.6	84.4	86.0	87.9	87.3	86.8
-46		73.5	75.8	77.8	79.9	81.9	83.7	85.2	87.2	86.6	86.0
-50		72.9	75.1	77.1	79.1	81.1	82.9	84.5	86.4	85.9	85.2

NOTE: When N<sub>1</sub> is limited by both temperature and altitude, use lesser value.

N<sub>1</sub> ADJUSTMENTS

CONFIGURATION	BLEED CONDITION	ALTITUDE - FEET			
		SL-25000	30000	35000	40000
ALL ENGINES OPERATING	RAIN REMOVAL ..... ON	-.3	-.5	-.6	-.9
	COWL ICE PROTECTION .. ON	-.8	-1.1	-1.3	-1.8
	COWL PLUS AIRPLANE ICE PROTECTION ..... ON	-1.5	-1.9	-2.5	-3.3
3 ENGINES OPERATING OR 1 BLEED SYSTEM INOP	RAIN REMOVAL ..... ON	-.5	-.6	-.8	-1.3
	COWL ICE PROTECTION ... ON	-1.1	-1.3	-1.7	-2.3
	COWL PLUS AIRPLANE ICE PROTECTION ..... ON	-1.9	-2.3	-3.1	-4.2
	TWO PACKS ON AT MAXIMUM SETTING	-.4	-.5	-.6	-1.0

Adjust N<sub>1</sub> by value appropriate to airplane configuration, bleed condition and altitude.



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4 - ENGINE GO-AROUND THRUST - CFM 56

N<sub>1</sub> values shown here are based on:

- All engines operating
- Normal bleed
- Two air conditioning packs on at maximum setting
- Cowl ice protection ON or OFF; at or below 6000 feet;  
and at or below 10°C

(.275H) OAT-F	TAT °C	TEMP LIMITED N <sub>1</sub>	ALTITUDE LIMITED - N <sub>1</sub>					
			SL	2000	4000	6000	8000	10000
126	60	87.1						
118	56	87.6						
113	52	88.2						
106	48	88.8						
99	44	89.4						
91	40	90.1						
84	36	90.7						
77	32	91.5	91.2					
70	28	92.1	90.6	91.9				
63	24	92.7	90.0	91.3	92.5			
55	20	93.3	89.4	90.7	91.9	93.0		
48	16	93.7	88.7	90.0	91.2	92.3	93.4	
41	12	94.1	88.1	89.4	90.6	91.7	92.7	93.7
36	8		87.5	88.8	90.0	91.1	92.1	93.0
28	4		86.9	88.2	89.3	90.4	91.4	92.4
21	0		86.3	87.6	88.6	89.8	90.7	91.7
14	-4		85.7	86.9	88.0	89.1	90.0	91.0
7	-8		85.0	86.3	87.3	88.4	89.4	90.3
0	-12		84.4	85.6	86.7	87.8	88.7	89.6
-8	-16		83.7	85.0	86.0	87.1	88.0	89.0
-15	-20		83.1	84.3	85.3	86.4	87.3	88.3
-22	-24		82.5	83.7	84.7	85.8	86.7	87.6
-29	-28	USE ALTITUDE LIMITED N <sub>1</sub>	81.8	83.0	84.0	85.1	86.0	86.9
-36	-32		81.2	82.3	83.3	84.3	85.3	86.2
-42	-36		80.5	81.6	82.6	83.6	84.6	85.4
-49	-40		79.8	80.9	81.9	82.9	83.8	84.7
-56	-44		79.1	80.2	81.2	82.2	83.1	84.0
-63	-48		78.4	79.5	80.5	81.5	82.4	83.2
-71	-52		77.7	78.8	79.8	80.7	81.7	82.5
-78	-56		77.0	78.1	79.1	80.0	80.9	81.8
-85	-60		76.3	77.4	78.4	79.3	80.2	81.0

NOTE: When N<sub>1</sub> is limited by both temperature and altitude, use lesser value.

Adjust N<sub>1</sub> by value appropriate to aircraft configuration and bleed condition.

CONFIGURATION	BLEED CONDITION	N <sub>1</sub> ADJUSTMENT
ALL ENGINES OPERATING	RAIN REMOVAL .....ON	-.4
	AIRPLANE ICE PROTECTION ...ON	-.6
	COWL ICE PROTECTION ON ABOVE 6000 FEET	-.9
3 ENGINES OPERATING OR 1 BLEED SYSTEM INOP	RAIN REMOVAL .....ON	-.5
	AIRPLANE ICE PROTECTION ...ON	-.8
	COWL ICE PROTECTION ON ABOVE 6000 FEET	-1.1
	2 A/C PACKS ON AT MAX SETTING	-.4





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LANDING REFERENCE SPEEDS - FLAPS FULL DOWN

\*To be used in the event that overweight landing is the best course of action.

	GROSS WEIGHTS												
	170	180	190	200	210	220	230	240	250	260*	270*	280*	290*
REF (IAS)	119	123	127	130	133	136	139	142	145	148	151	149	152

MANEUVERING, APPROACH AND THRESHOLD SPEEDS

FLAP POSITION	MANEUVER	APPROACH	THRESHOLD
0	REF +50	REF +35	REF +25
15	REF +35	REF +25	REF +15
25	REF +25	REF +20	REF +10
35	- -	REF +10	REF + 5
FULL DOWN	- -	REF + 5	REF

ADJUSTMENTS:

Wind Corrections

Approach speed - add 1/2 the steady headwind component plus the full gust value (not to exceed REF plus 15 knots). This then becomes TARGET APPROACH SPEED (but not less than REF + 5 knots).

Threshold speed - add only the gust value (not to exceed 15 knots) to REF speed. This then becomes TARGET THRESHOLD SPEED.



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