

CLIMB

SUPERSONIC CLIMB

4 ENGINES

SUPERSONIC

TEMPERATURE ISA to ISA+10	DATA MASSE (Tonnes) / CT (Kg) D / T (nm) (min)	THRUST SETTINGS FLIGHT CLIMB REHEAT ON M=0.93 to M=1.7	CLIMB LAW V <sub>MO</sub>
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FLIGHT LEVEL	114/10900 205/15	110/10300 190/14	105/ 9700 176/13	101/ 9200 164/12	96/ 8700 152/12	92/ 8200 142/11
490	115/10300 179/14	110/ 9800 166/13	106/ 9200 159/12	101/ 8800 145/11	97/ 8300 135/11	92/ 7900 126/10
470	115/ 9500 146/12	111/ 9000 137/11	106/ 8600 128/11	102/ 8200 120/10	97/ 7800 112/ 9	93/ 7400 105/ 9
450	116/ 8900 122/11	111/ 8500 114/10	107/ 8000 108/ 9	102/ 7700 101/ 9	98/ 7300 95/ 8	93/ 6900 89/ 8
432	117/ 8200 100/ 9	112/ 7900 94/ 9	107/ 7500 89/ 8	103/ 7200 83/ 8	98/ 6800 79/ 7	93/ 6500 74/ 7
410	117/ 7600 85/ 8	113/ 7200 80/ 8	108/ 6900 76/ 8	103/ 6600 71/ 7	99/ 6300 67/ 7	94/ 6000 63/ 6
390	118/ 7000 74/ 8	113/ 6700 70/ 7	109/ 6400 66/ 7	104/ 6100 62/ 6	99/ 5800 59/ 6	94/ 5600 55/ 6
370	119/ 6400 65/ 7	114/ 6100 61/ 7	109/ 5900 57/ 6	104/ 5600 54/ 6	100/ 5400 51/ 6	95/ 5100 48/ 5
350	119/ 5900 56/ 6	114/ 5600 53/ 6	110/ 5400 50/ 6	105/ 5200 47/ 5	100/ 4900 44/ 5	95/ 4700 41/ 5
330	120/ 5300 47/ 5	115/ 5100 45/ 5	110/ 4900 42/ 5	105/ 4700 39/ 5	100/ 4500 37/ 4	96/ 4300 35/ 4
310	120/ 4900 41/ 5	115/ 4700 38/ 5	110/ 4500 36/ 4	106/ 4300 34/ 4	101/ 4200 32/ 4	96/ 4000 30/ 4
290	120/ 4500 36/ 4	116/ 4300 34/ 4	111/ 4200 32/ 4	106/ 4000 30/ 4	101/ 3900 28/ 4	96/ 3800 27/ 3
280	121/ 4400 34/ 4	116/ 4200 32/ 4	111/ 4000 30/ 4	106/ 3900 28/ 4	101/ 3800 27/ 3	96/ 3600 25/ 3
270	121/ 4200 32/ 4	116/ 4100 30/ 4	111/ 3900 29/ 4	106/ 3800 27/ 3	101/ 3700 25/ 3	96/ 3500 24/ 3
260	121/ 4100 31/ 4	116/ 4000 29/ 4	111/ 3800 27/ 3	106/ 3700 26/ 3	101/ 3600 24/ 3	97/ 3400 23/ 3
250	121/ 4000 29/ 4	116/ 3800 28/ 4	111/ 3700 26/ 3	106/ 3600 25/ 3	101/ 3500 23/ 3	97/ 3400 22/ 3
240	121/ 3900 27/ 4	116/ 3700 26/ 3	111/ 3600 24/ 3	106/ 3500 23/ 3	102/ 3400 22/ 3	97/ 3300 20/ 3
230	121/ 3800 26/ 3	116/ 3600 24/ 3	111/ 3500 23/ 3	107/ 3400 22/ 3	102/ 3300 20/ 3	97/ 3200 19/ 3
TAKE -OFF	125	120	115	110	105	100

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TEMPERATURE ISA to ISA+10	DATA MASSE (Tonnes) / CT (Kg) D / T (nm) (min)	THRUST SETTINGS FLIGHT CLIMB REHEAT ON M=0.93 to M=1.7	CLIMB LAW V <sub>MO</sub>
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FLIGHT LEVEL	149/35700 1047/65	149/30900 873/55	148/26500 709/46	147/22800 573/38	145/20000 474/32	142/17900 406/28
490	157/28300 715/48	155/24500 586/40	153/21500 487/34	151/19200 415/30	147/17500 362/26	144/16000 321/24
470	164/21200 420/32	161/19200 366/28	157/17600 324/25	154/15200 291/23	150/15100 264/21	146/14100 242/19
450	167/17700 291/24	163/16500 264/22	160/15400 241/21	156/14400 222/19	151/13600 206/18	147/12800 191/17
432	170/15300 204/19	166/14400 191/18	161/13600 179/17	157/12900 169/16	153/12200 159/15	148/11600 149/14
410	171/13900 175/17	167/13100 164/16	163/12400 154/15	158/11700 144/14	154/11100 136/13	149/10600 128/13
390	172/12700 154/16	168/12000 144/15	164/11400 135/14	159/10800 127/13	155/10200 119/12	150/ 9700 112/12
370	173/11700 135/14	169/11000 126/13	165/10400 118/13	160/ 9900 111/12	156/ 9400 104/11	151/ 8900 98/10
350	174/10500 117/13	170/10000 109/12	166/ 9400 102/11	161/ 8900 96/11	156/ 8500 90/10	152/ 8100 84/ 9
330	176/ 9300 98/11	171/ 8800 92/10	167/ 8400 86/10	162/ 7900 81/ 9	157/ 7600 76/ 9	153/ 7200 71/ 8
310	177/ 8300 83/10	172/ 7800 77/ 9	167/ 7500 73/ 9	163/ 7100 68/ 8	158/ 6800 64/ 8	153/ 6500 61/ 7
290	178/ 7400 71/ 9	173/ 7100 67/ 8	168/ 6800 63/ 8	163/ 6500 60/ 7	159/ 6200 56/ 7	154/ 5900 53/ 6
280	178/ 7100 67/ 8	173/ 6800 63/ 8	168/ 6500 59/ 7	164/ 6200 56/ 7	159/ 5900 53/ 6	154/ 5700 50/ 6
270	178/ 6800 63/ 8	173/ 6500 60/ 7	169/ 6200 56/ 7	164/ 6000 53/ 7	159/ 5700 50/ 6	154/ 5500 47/ 6
260	178/ 6600 60/ 8	174/ 6300 57/ 7	169/ 6000 53/ 7	164/ 5700 50/ 6	159/ 5500 48/ 6	155/ 5300 45/ 6
250	179/ 6300 58/ 7	174/ 6100 54/ 7	169/ 5800 51/ 6	164/ 5600 48/ 6	160/ 5300 46/ 6	155/ 5100 43/ 5
240	179/ 6100 53/ 7	174/ 5800 50/ 6	169/ 5600 48/ 6	165/ 5400 45/ 6	160/ 5200 42/ 5	155/ 5000 40/ 5
230	179/ 5900 50/ 6	174/ 5600 47/ 6	170/ 5400 44/ 6	165/ 5200 42/ 5	160/ 5000 40/ 5	155/ 4800 38/ 5
TAKE -OFF	185	180	175	170	165	160

PRINTED IN ENGLAND

ALL ENGINES - CRUISE CONTROL CHART  
PREFERRED SUPERSONIC SPEED

FL520

AIRCRAFT WEIGHT TONNES	TEMPERATURE DEG C RELATIVE TO ISA								
	-30	-20	-15	-10	-5	0	5	10	15
165	99.28 2.00/1065 6117	101.62 2.00/1093 6300							
160	98.75 2.00/1065 5930	101.06 2.00/1093 6111	102.18 2.00/1107 6198						
155	98.26 2.00/1065 5765	100.57 2.00/1093 5941	101.69 2.00/1107 6027						
150	97.78 2.00/1065 5599	100.08 2.00/1093 5771	101.20 2.00/1107 5856	102.33 2.00/1120 5939					
145	97.36 2.00/1065 5453	99.64 2.00/1093 5620	100.75 2.00/1107 5702	101.87 2.00/1120 5783	102.94 2.00/1134 5862				
140	96.93 2.00/1065 5306	99.20 2.00/1093 5468	100.31 2.00/1107 5548	101.41 2.00/1120 5628	102.48 2.00/1134 5706	103.52 2.00/1147 5783			
135	96.51 2.00/1065 5168	98.78 2.00/1093 5327	99.87 2.00/1107 5404	100.95 2.00/1120 5482	102.02 2.00/1134 5558	103.06 2.00/1147 5634	104.04 2.00/1160 5708		
130	96.10 2.00/1065 5030	98.35 2.00/1093 5186	99.44 2.00/1107 5261	100.50 2.00/1120 5336	101.56 2.00/1134 5410	102.59 2.00/1147 5485	103.62 2.00/1160 5561	104.37 1.96/1147 5525	
125	95.73 2.00/1065 4912	97.97 2.00/1093 5065	99.06 2.00/1107 5138	100.13 2.00/1120 5212	101.19 2.00/1134 5286	102.22 2.00/1147 5362	103.23 2.00/1160 5439	103.96 1.96/1147 5395	
120	95.36 2.00/1065 4793	97.58 2.00/1093 4943	98.68 2.00/1107 5014	99.76 2.00/1120 5087	100.82 2.00/1134 5162	101.84 2.00/1147 5239	102.84 2.00/1160 5317	103.56 1.96/1147 5264	
115	95.08 2.00/1065 4700	97.29 2.00/1093 4852	98.38 2.00/1107 4927	99.47 2.00/1120 5001	100.54 2.00/1134 5076	101.58 2.00/1147 5153	102.60 2.00/1160 5231	103.27 1.96/1147 5167	104.02 1.91/1131 5118
110	94.80 2.00/1065 4607	96.99 2.00/1093 4762	98.08 2.00/1107 4839	99.18 2.00/1120 4915	100.26 2.00/1134 4989	101.32 2.00/1147 5066	102.35 2.00/1160 5145	102.98 1.96/1147 5070	103.74 1.91/1131 5027
105	94.56 2.00/1065 4538	96.77 2.00/1093 4690	97.85 2.00/1107 4766	98.92 2.00/1120 4841	100.01 2.00/1134 4917	101.09 2.00/1147 4995	102.14 2.00/1160 5075	102.75 1.96/1147 4992	103.45 1.91/1131 4935
100	94.33 2.00/1065 4470	96.55 2.00/1093 4617	97.61 2.00/1107 4693	98.67 2.00/1120 4767	99.76 2.00/1134 4844	100.86 2.00/1147 4924	101.94 2.00/1160 5004	102.53 1.96/1147 4915	103.17 1.91/1131 4844
95	94.10 2.00/1065 4409	96.37 2.00/1093 4560	97.45 2.00/1107 4636	98.52 2.00/1120 4710	99.60 2.00/1134 4785	100.69 2.00/1147 4863	101.76 2.00/1160 4941	102.33 1.96/1147 4849	102.89 1.91/1131 4753

N2 (PERCENT)  
MACH NO/TAS (KNOTS)  
FUEL FLOW PER ENGINE (KILOGRAMS PER HOUR)

ALL ENGINES - CRUISE CONTROL CHART  
PREFERRED SUPERSONIC SPEED

FL560

AIRCRAFT WEIGHT TONNES	TEMPERATURE DEG C RELATIVE TO ISA								
	-30	-20	-15	-10	-5	0	5	10	15
165									
160									
155									
150	100.75 2.00/1065 5427								
145	100.09 2.00/1065 5423								
140	99.44 2.00/1065 5220								
135	98.80 2.00/1065 5035	101.12 2.00/1093 5164							
130	98.17 2.00/1065 4850	100.47 2.00/1093 4996	101.58 2.00/1107 5067						
125	97.62 2.00/1065 4691	99.90 2.00/1093 4833	101.02 2.00/1107 4903	102.13 2.00/1120 4970					
120	97.06 2.00/1065 4532	99.34 2.00/1093 4671	100.45 2.00/1107 4739	101.55 2.00/1120 4807	102.63 2.00/1134 4874				
115	96.55 2.00/1065 4389	98.81 2.00/1093 4525	99.91 2.00/1107 4590	101.00 2.00/1120 4656	102.06 2.00/1134 4721	103.10 2.00/1147 4785	104.10 2.00/1160 4843		
110	96.03 2.00/1065 4246	98.29 2.00/1093 4378	99.38 2.00/1107 4442	100.44 2.00/1120 4505	101.50 2.00/1134 4568	102.53 2.00/1147 4631	103.56 2.00/1160 4695		
105	95.57 2.00/1065 4123	97.81 2.00/1093 4254	98.90 2.00/1107 4317	99.98 2.00/1120 4380	101.04 2.00/1134 4442	102.07 2.00/1147 4506	103.09 2.00/1160 4570	103.80 1.96/1147 4531	
100	95.11 2.00/1065 4000	97.33 2.00/1093 4130	98.43 2.00/1107 4193	99.52 2.00/1120 4254	100.58 2.00/1134 4315	101.61 2.00/1147 4380	102.62 2.00/1160 4446	103.33 1.96/1147 4403	
95	94.77 2.00/1065 3912	96.98 2.00/1093 4039	98.07 2.00/1107 4103	99.16 2.00/1120 4166	100.25 2.00/1134 4230	101.31 2.00/1147 4296	102.34 2.00/1160 4363	103.00 1.96/1147 4309	103.60 1.91/1131 4234

N2 (PERCENT)  
MACH NO/TAS (KNOTS)  
FUEL FLOW PER ENGINE (KILOGRAMS PER HOUR)

ALL ENGINES - CRUISE CONTROL CHART  
PREFERRED SUPERSONIC SPEED

FL540

AIRCRAFT WEIGHT TONNES	TEMPERATURE DEG C RELATIVE TO ISA								
	-30	-20	-15	-10	-5	0	5	10	15
165	100.93 2.00/1065 6174								
160	100.32 2.00/1065 5963								
155	99.73 2.00/1065 5767								
150	99.14 2.00/1065 5570	101.46 2.00/1093 5737							
145	98.58 2.00/1065 5394	100.89 2.00/1093 5556	102.00 2.00/1107 5631						
140	98.02 2.00/1065 5218	100.32 2.00/1093 5376	101.44 2.00/1107 5454						
135	97.54 2.00/1065 5065	99.83 2.00/1093 5219	100.94 2.00/1107 5295	102.06 2.00/1120 5371					
130	97.05 2.00/1065 4912	99.33 2.00/1093 5062	100.44 2.00/1107 5136	101.55 2.00/1120 5210	102.62 2.00/1134 5283	103.67 2.00/1147 5355			
125	96.59 2.00/1065 4771	98.86 2.00/1093 4918	99.96 2.00/1107 4990	101.04 2.00/1120 5061	102.11 2.00/1134 5132	103.15 2.00/1147 5202	104.14 2.00/1160 5268		
120	96.13 2.00/1065 4631	98.39 2.00/1093 4774	99.47 2.00/1107 4843	100.54 2.00/1120 4911	101.59 2.00/1134 4980	102.63 2.00/1147 5049	103.66 2.00/1160 5118		
115	95.71 2.00/1065 4508	97.95 2.00/1093 4650	99.05 2.00/1107 4717	100.12 2.00/1120 4784	101.18 2.00/1134 4852	102.21 2.00/1147 4922	103.22 2.00/1160 4992	103.95 1.96/1147 4954	
110	95.30 2.00/1065 4386	97.52 2.00/1093 4525	98.62 2.00/1107 4591	99.70 2.00/1120 4657	100.77 2.00/1134 4724	101.79 2.00/1147 4795	102.79 2.00/1160 4867	103.50 1.96/1147 4823	
105	94.98 2.00/1065 4292	97.20 2.00/1093 4432	98.29 2.00/1107 4502	99.38 2.00/1120 4569	100.46 2.00/1134 4638	101.50 2.00/1147 4709	102.53 2.00/1160 4781	103.19 1.96/1147 4726	103.90 1.91/1131 4678
100	94.67 2.00/1065 4197	96.87 2.00/1093 4339	97.96 2.00/1107 4412	99.06 2.00/1120 4482	100.15 2.00/1134 4552	101.22 2.00/1147 4623	102.26 2.00/1160 4696	102.87 1.96/1147 4629	103.61 1.91/1131 4591
95	94.41 2.00/1065 4132	96.64 2.00/1093 4272	97.73 2.00/1107 4343	98.81 2.00/1120 4412	99.90 2.00/1134 4480	100.97 2.00/1147 4552	102.03 2.00/1160 4625	102.62 1.96/1147 4551	103.31 1.91/1131 4504

N2 (PERCENT)  
MACH NO/TAS (KNOTS)  
FUEL FLOW PER ENGINE (KILOGRAMS PER HOUR)

PRINTED IN GILAND

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ALL ENGINES - CRUISE CONTROL CHART  
PREFERRED SUPERSONIC SPEED

FL600

ALL ENGINES - CRUISE CONTROL CHART  
PREFERRED SUPERSONIC SPEED

FL580

PRINTED IN ICLAND

AIRCRAFT WEIGHT TONNES	TEMPERATURE DEG C RELATIVE TO ISA								
	-30	-20	-15	-10	-5	0	5	10	15
165									
160									
155									
150									
145									
140									
135									
130									
125	100.39 2.00/1065 4728								
120	99.77 2.00/1065 4512								
115	98.98 2.00/1065 4317	101.30 2.00/1093 4441							
110	98.19 2.00/1065 4123	100.49 2.00/1093 4246	101.61 2.00/1107 4308						
105	97.51 2.00/1065 3958	99.78 2.00/1093 4078	100.90 2.00/1107 4137	101.98 2.00/1120 4188					
100	96.82 2.00/1065 3793	99.08 2.00/1093 3909	100.18 2.00/1107 3966	101.27 2.00/1120 4022	102.34 2.00/1134 4077				
95	96.17 2.00/1065 3648	98.42 2.00/1093 3761	99.52 2.00/1107 3816	100.60 2.00/1120 3871	101.66 2.00/1134 3926	102.69 2.00/1147 3979	103.70 2.00/1160 4027		

N2 (PERCENT)  
MACH NO/TAS (KNOTS)  
FUEL FLOW PER ENGINE (KILOGRAMS PER HOUR)

PRINTED IN ICLAND

AIRCRAFT WEIGHT TONNES	TEMPERATURE DEG C RELATIVE TO ISA								
	-30	-20	-15	-10	-5	0	5	10	15
165									
160									
155									
150									
145									
140									
135	100.39 2.00/1065 5079								
130	99.66 2.00/1065 4867								
125	98.95 2.00/1065 4677	101.26 2.00/1093 4813							
120	98.24 2.00/1065 4486	100.53 2.00/1093 4620	101.66 2.00/1107 4690						
115	97.61 2.00/1065 4323	99.90 2.00/1093 4454	101.02 2.00/1107 4520	102.11 2.00/1120 4576					
110	96.99 2.00/1065 4160	99.26 2.00/1093 4287	100.37 2.00/1107 4350	101.47 2.00/1120 4412	102.54 2.00/1134 4472				
105	96.41 2.00/1065 4015	98.67 2.00/1093 4139	99.78 2.00/1107 4200	100.86 2.00/1120 4260	101.92 2.00/1134 4319	102.96 2.00/1147 4377			
100	95.83 2.00/1065 3870	98.09 2.00/1093 3991	99.18 2.00/1107 4050	100.25 2.00/1120 4108	101.30 2.00/1134 4167	102.33 2.00/1147 4225	103.36 2.00/1160 4284		
95	95.34 2.00/1065 3749	97.57 2.00/1093 3870	98.67 2.00/1107 3930	99.75 2.00/1120 3989	100.82 2.00/1134 4047	101.86 2.00/1147 4106	102.89 2.00/1160 4166	103.61 2.00/1177 4129	

N2 (PERCENT)  
MACH NO/TAS (KNOTS)  
FUEL FLOW PER ENGINE (KILOGRAMS PER HOUR)

DESCENT SPEED  
380 KT

DESCENT

TEMPERATURE  
Warmer than  
ISA - 10°C

DESCENT SPEED  
350 KT

DESCENT

TEMPERATURE  
Warmer than  
ISA - 10°C

The tables give data for CONSTANT ALTITUDE deceleration and descent at all temperatures warmer than ISA - 10°C.

The tables give data for CONSTANT ALTITUDE deceleration and descent at all temperatures warmer than ISA - 10°C.

1. DECELERATION AND DESCENT FROM CRUISE FLIGHT LEVEL TO 1500 FEET

1. DECELERATION AND DESCENT FROM CRUISE FLIGHT LEVEL TO 1500 FEET

Table with columns: FLIGHT LEVEL, FUEL TONNES, TIME MIN, MEAN T.A.S. KT., DISTANCE COVERED NM., TAILWIND KTS., HEADWIND KTS.

\* INCLUDES DECELERATION FROM CRUISE TO 380 KTS.

2. DECELERATION & DESCENT FROM CRUISE/CLIMB FLIGHT LEVELS TO FL 312 WHERE M = 1.0 ON THE 380 KT DESCENT PROFILE

Table with columns: FLIGHT LEVEL, FUEL TONNES, TIME MIN, MEAN T.A.S. KT., DISTANCE COVERED NM., TAILWIND KTS., HEADWIND KTS.

If a subsonic cruise is planned at a flight level above FL312 the distance obtained from the table above should be corrected as follows:-

Subtract 2 nm per 2000 ft. above FL312

PRINTED IN ENGLAND

Table with columns: FLIGHT LEVEL, FUEL TONNES, TIME MIN, MEAN T.A.S. KT., DISTANCE COVERED NM., TAILWIND KTS., HEADWIND KTS.

\* INCLUDES DECELERATION FROM CRUISE TO 350 KTS.

2. DECELERATION & DESCENT FROM CRUISE/CLIMB FLIGHT LEVELS TO FL 350 WHERE M = 1.0 ON THE 350 KT DESCENT PROFILE

Table with columns: FLIGHT LEVEL, FUEL TONNES, TIME MIN, MEAN T.A.S. KT., DISTANCE COVERED NM., TAILWIND KTS., HEADWIND KTS.

If a subsonic cruise is planned at a flight level above FL350 the distance obtained from the table above should be corrected as follows:-

Subtract 3 nm per 2000 ft. above FL350