

ALTITUDE CORRECTION TABLES 10°-90°—SUN, STARS, PLANETS

OCT.—MAR. SUN			APR.—SEPT.			STARS AND PLANETS				DIP							
App. Alt.	Lower Limb	Upper Limb	App. Alt.	Lower Limb	Upper Limb	App. Alt.	Corr ⁿ	App. Alt.	Additional Corr ⁿ	Ht. of Eye	Corr ⁿ	Ht. of Eye	Ht. of Eye	Corr ⁿ			
						2003				m		ft.					
						VENUS				2.4		-2.8		8.0		1.0 - 1.8	
						Jan. 1–Feb. 20				2.6		-2.9		8.6		1.5 - 2.2	
						° /				2.8		-3.0		9.2		2.0 - 2.5	
						0 +0.2				3.0		-3.1		9.8		2.5 - 2.8	
						41 +0.1				3.2		-3.2		10.5		3.0 - 3.0	
						76 +0.1				3.4		-3.3		11.2		See table	
						Feb. 21–Dec. 31				3.6		-3.4		11.9		←	
						° /				3.8		-3.5		12.6		m /	
						0 +0.1				4.0		-3.6		13.3		20 - 7.9	
						60 +0.1				4.3		-3.7		14.1		22 - 8.3	
						MARS				4.5		-3.8		14.9		24 - 8.6	
						Jan. 1–May 2				4.7		-3.9		15.7		26 - 9.0	
						Dec. 17–Dec. 31				5.0		-4.0		16.5		28 - 9.3	
						° /				5.2		-4.1		17.4		30 - 9.6	
						0 +0.1				5.5		-4.2		18.3		32 - 10.0	
						60 +0.1				5.8		-4.3		19.1		34 - 10.3	
						May 3–June 26				6.1		-4.4		20.1		36 - 10.6	
						Oct. 26–Dec. 16				6.3		-4.5		21.0		38 - 10.8	
						° /				6.6		-4.6		22.0		40 - 11.1	
						0 +0.2				6.9		-4.7		22.9		42 - 11.4	
						41 +0.1				7.2		-4.8		23.9		44 - 11.7	
						76 +0.1				7.5		-4.9		24.9		46 - 11.9	
						June 27–Aug. 1				7.9		-5.0		26.0		48 - 12.2	
						Sept. 23–Oct. 25				8.2		-5.1		27.1		ft. /	
						° /				8.5		-5.2		28.1		2 - 1.4	
						0 +0.3				8.8		-5.3		29.2		4 - 1.9	
						34 +0.2				9.2		-5.4		30.4		6 - 2.4	
						60 +0.1				9.5		-5.5		31.5		8 - 2.7	
						80 +0.1				9.9		-5.6		32.7		10 - 3.1	
						Aug. 2–Sept. 22				10.3		-5.7		33.9		See table	
						° /				10.6		-5.8		35.1		←	
						0 +0.4				11.0		-5.9		36.3		ft. /	
						29 +0.3				11.4		-6.0		37.6		70 - 8.1	
						51 +0.2				11.8		-6.1		38.9		75 - 8.4	
						68 +0.1				12.2		-6.2		40.1		80 - 8.7	
						83				12.6		-6.3		41.5		85 - 8.9	
						25 14 -2.0				13.0		-6.4		42.8		90 - 9.2	
						26 22 -1.9				13.4		-6.5		44.2		95 - 9.5	
						27 36 -1.8				13.8		-6.6		45.5		100 - 9.7	
						28 56 -1.7				14.2		-6.7		46.9		105 - 9.9	
						30 24 -1.6				14.7		-6.8		48.4		110 - 10.2	
						32 00 -1.5				15.1		-6.9		49.8		115 - 10.4	
						33 45 -1.4				15.5		-7.0		51.3		120 - 10.6	
						35 40 -1.3				16.0		-7.1		52.8		125 - 10.8	
						37 48 -1.2				16.5		-7.2		54.3		130 - 11.1	
						40 08 -1.1				16.9		-7.3		55.8		135 - 11.3	
						42 44 -1.0				17.4		-7.4		57.4		140 - 11.5	
						45 36 -0.9				17.9		-7.5		58.9		145 - 11.7	
						48 47 -0.8				18.4		-7.6		60.5		150 - 11.9	
						52 18 -0.7				18.8		-7.7		62.1		155 - 12.1	
						56 11 -0.6				19.3		-7.8		63.8			
						60 28 -0.5				19.8		-7.9		65.4			
						65 08 -0.4				20.4		-8.0		67.1			
						70 11 -0.3				20.9		-8.1		68.8			
						75 34 -0.2				21.4				70.5			
						81 13 -0.1											
						87 03 0.0											
						90 00 0.0											

App. Alt. = Apparent altitude = Sextant altitude corrected for index error and dip.

ALTITUDE CORRECTION TABLES 0°-10°—SUN, STARS, PLANETS A₃

App. Alt.	OCT.—MAR. SUN		APR.—SEPT.		STARS PLANETS
	Lower Limb	Upper Limb	Lower Limb	Upper Limb	
0 00	-17.5	-49.8	-17.8	-49.6	-33.8
0 03	16.9	49.2	17.2	49.0	33.2
0 06	16.3	48.6	16.6	48.4	32.6
0 09	15.7	48.0	16.0	47.8	32.0
0 12	15.2	47.5	15.4	47.2	31.5
0 15	14.6	46.9	14.8	46.6	30.9
0 18	-14.1	-46.4	-14.3	-46.1	-30.4
0 21	13.5	45.8	13.8	45.6	29.8
0 24	13.0	45.3	13.3	45.1	29.3
0 27	12.5	44.8	12.8	44.6	28.8
0 30	12.0	44.3	12.3	44.1	28.3
0 33	11.6	43.9	11.8	43.6	27.9
0 36	-11.1	-43.4	-11.3	-43.1	-27.4
0 39	10.6	42.9	10.9	42.7	26.9
0 42	10.2	42.5	10.5	42.3	26.5
0 45	9.8	42.1	10.0	41.8	26.1
0 48	9.4	41.7	9.6	41.4	25.7
0 51	9.0	41.3	9.2	41.0	25.3
0 54	- 8.6	-40.9	- 8.8	-40.6	-24.9
0 57	8.2	40.5	8.4	40.2	24.5
1 00	7.8	40.1	8.0	39.8	24.1
1 03	7.4	39.7	7.7	39.5	23.7
1 06	7.1	39.4	7.3	39.1	23.4
1 09	6.7	39.0	7.0	38.8	23.0
1 12	- 6.4	-38.7	- 6.6	-38.4	-22.7
1 15	6.0	38.3	6.3	38.1	22.3
1 18	5.7	38.0	6.0	37.8	22.0
1 21	5.4	37.7	5.7	37.5	21.7
1 24	5.1	37.4	5.3	37.1	21.4
1 27	4.8	37.1	5.0	36.8	21.1
1 30	- 4.5	-36.8	- 4.7	-36.5	-20.8
1 35	4.0	36.3	4.3	36.1	20.3
1 40	3.6	35.9	3.8	35.6	19.9
1 45	3.1	35.4	3.4	35.2	19.4
1 50	2.7	35.0	2.9	34.7	19.0
1 55	2.3	34.6	2.5	34.3	18.6
2 00	- 1.9	-34.2	- 2.1	-33.9	-18.2
2 05	1.5	33.8	1.7	33.5	17.8
2 10	1.1	33.4	1.4	33.2	17.4
2 15	0.8	33.1	1.0	32.8	17.1
2 20	0.4	32.7	0.7	32.5	16.7
2 25	- 0.1	32.4	- 0.3	32.1	16.4
2 30	+ 0.2	-32.1	0.0	-31.8	-16.1
2 35	0.5	31.8	+ 0.3	31.5	15.8
2 40	0.8	31.5	0.6	31.2	15.4
2 45	1.1	31.2	0.9	30.9	15.2
2 50	1.4	30.9	1.2	30.6	14.9
2 55	1.7	30.6	1.4	30.4	14.6
3 00	+ 2.0	-30.3	+ 1.7	-30.1	-14.3
3 05	2.2	30.1	2.0	29.8	14.1
3 10	2.5	29.8	2.2	29.6	13.8
3 15	2.7	29.6	2.5	29.3	13.6
3 20	2.9	29.4	2.7	29.1	13.4
3 25	3.2	29.1	2.9	28.9	13.1
3 30	+ 3.4	-28.9	+ 3.1	-28.7	-12.9

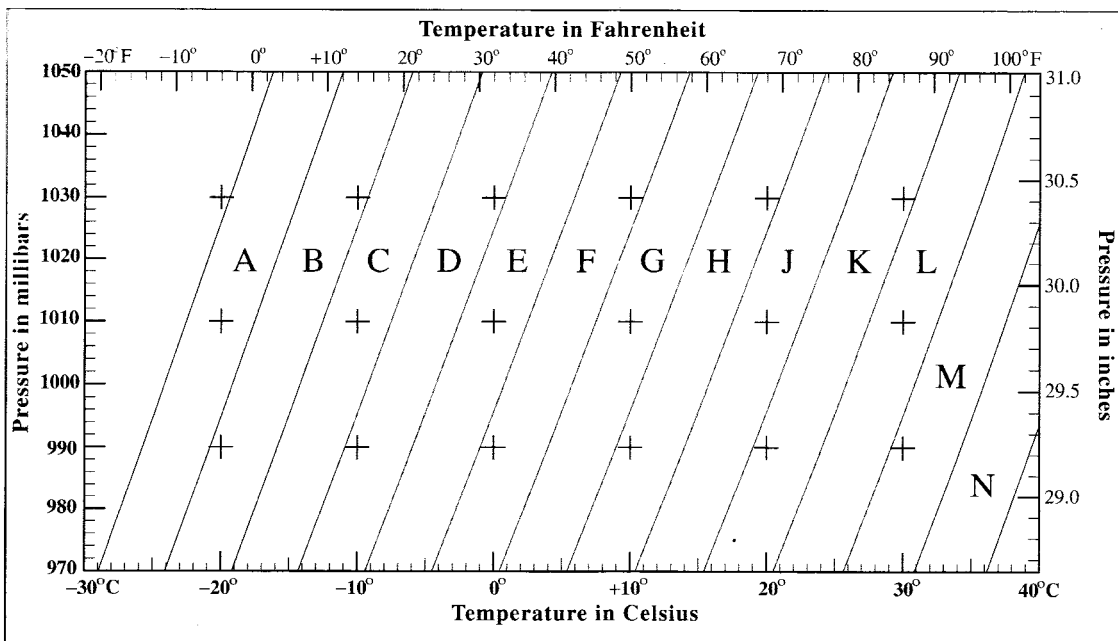
App. Alt.	OCT.—MAR. SUN		APR.—SEPT.		STARS PLANETS
	Lower Limb	Upper Limb	Lower Limb	Upper Limb	
3 30	+ 3.4	-28.9	+ 3.1	-28.7	-12.9
3 35	3.6	28.7	3.3	28.5	12.7
3 40	3.8	28.5	3.6	28.2	12.5
3 45	4.0	28.3	3.8	28.0	12.3
3 50	4.2	28.1	4.0	27.8	12.1
3 55	4.4	27.9	4.1	27.7	11.9
4 00	+ 4.6	-27.7	+ 4.3	-27.5	-11.7
4 05	4.8	27.5	4.5	27.3	11.5
4 10	4.9	27.4	4.7	27.1	11.4
4 15	5.1	27.2	4.9	26.9	11.2
4 20	5.3	27.0	5.0	26.8	11.0
4 25	5.4	26.9	5.2	26.6	10.9
4 30	+ 5.6	-26.7	+ 5.3	-26.5	-10.7
4 35	5.7	26.6	5.5	26.3	10.6
4 40	5.9	26.4	5.6	26.2	10.4
4 45	6.0	26.3	5.8	26.0	10.3
4 50	6.2	26.1	5.9	25.9	10.1
4 55	6.3	26.0	6.1	25.7	10.0
5 00	+ 6.4	-25.9	+ 6.2	-25.6	- 9.8
5 05	6.6	25.7	6.3	25.5	9.7
5 10	6.7	25.6	6.5	25.3	9.6
5 15	6.8	25.5	6.6	25.2	9.5
5 20	7.0	25.3	6.7	25.1	9.3
5 25	7.1	25.2	6.8	25.0	9.2
5 30	+ 7.2	-25.1	+ 6.9	-24.9	- 9.1
5 35	7.3	25.0	7.1	24.7	9.0
5 40	7.4	24.9	7.2	24.6	8.9
5 45	7.5	24.8	7.3	24.5	8.8
5 50	7.6	24.7	7.4	24.4	8.7
5 55	7.7	24.6	7.5	24.3	8.6
6 00	+ 7.8	-24.5	+ 7.6	-24.2	- 8.5
6 10	8.0	24.3	7.8	24.0	8.3
6 20	8.2	24.1	8.0	23.8	8.1
6 30	8.4	23.9	8.2	23.6	7.9
6 40	8.6	23.7	8.3	23.5	7.7
6 50	8.7	23.6	8.5	23.3	7.6
7 00	+ 8.9	-23.4	+ 8.7	-23.1	- 7.4
7 10	9.1	23.2	8.8	23.0	7.2
7 20	9.2	23.1	9.0	22.8	7.1
7 30	9.3	23.0	9.1	22.7	6.9
7 40	9.5	22.8	9.2	22.6	6.8
7 50	9.6	22.7	9.4	22.4	6.7
8 00	+ 9.7	-22.6	+ 9.5	-22.3	- 6.6
8 10	9.9	22.4	9.6	22.2	6.4
8 20	10.0	22.3	9.7	22.1	6.3
8 30	10.1	22.2	9.9	21.9	6.2
8 40	10.2	22.1	10.0	21.8	6.1
8 50	10.3	22.0	10.1	21.7	6.0
9 00	+ 10.4	-21.9	+ 10.2	-21.6	- 5.9
9 10	10.5	21.8	10.3	21.5	5.8
9 20	10.6	21.7	10.4	21.4	5.7
9 30	10.7	21.6	10.5	21.3	5.6
9 40	10.8	21.5	10.6	21.2	5.5
9 50	10.9	21.4	10.6	21.2	5.4
10 00	+ 11.0	-21.3	+ 10.7	-21.1	- 5.3

Additional corrections for temperature and pressure are given on the following page.

For bubble sextant observations ignore dip and use the star corrections for Sun, planets and stars.

A4 ALTITUDE CORRECTION TABLES—ADDITIONAL CORRECTIONS

ADDITIONAL REFRACTION CORRECTIONS FOR NON-STANDARD CONDITIONS



App. Alt.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	App. Alt.
00 00	-7.3	-5.9	-4.6	-3.4	-2.2	-1.1	0.0	+1.0	+2.0	+3.0	+4.0	+4.9	+5.9	+6.9	00 00
00 30	5.5	4.5	3.5	2.6	1.7	0.8	0.0	0.8	1.6	2.3	3.1	3.8	4.5	5.3	00 30
01 00	4.4	3.5	2.8	2.0	1.3	0.7	0.0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	01 00
01 30	3.5	2.9	2.2	1.7	1.1	0.5	0.0	0.5	1.0	1.5	2.0	2.5	2.9	3.4	01 30
02 00	2.9	2.4	1.9	1.4	0.9	0.4	0.0	0.4	0.8	1.3	1.7	2.0	2.4	2.8	02 00
02 30	-2.5	-2.0	-1.6	-1.2	-0.8	-0.4	0.0	+0.4	+0.7	+1.1	+1.4	+1.7	+2.1	+2.4	02 30
03 00	2.1	1.7	1.4	1.0	0.7	0.3	0.0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	03 00
03 30	1.9	1.5	1.2	0.9	0.6	0.3	0.0	0.3	0.5	0.8	1.1	1.3	1.6	1.8	03 30
04 00	1.6	1.3	1.1	0.8	0.5	0.3	0.0	0.2	0.5	0.7	0.9	1.2	1.4	1.6	04 00
04 30	1.5	1.2	0.9	0.7	0.5	0.2	0.0	0.2	0.4	0.6	0.8	1.0	1.3	1.5	04 30
05 00	-1.3	-1.1	-0.9	-0.6	-0.4	-0.2	0.0	+0.2	+0.4	+0.6	+0.8	+0.9	+1.1	+1.3	05 00
06	1.1	0.9	0.7	0.5	0.3	0.2	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	06
07	1.0	0.8	0.6	0.5	0.3	0.1	0.0	0.1	0.3	0.4	0.5	0.7	0.8	0.9	07
08	0.8	0.7	0.5	0.4	0.3	0.1	0.0	0.1	0.2	0.4	0.5	0.6	0.7	0.8	08
09	0.7	0.6	0.5	0.4	0.2	0.1	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	09
10 00	-0.7	-0.5	-0.4	-0.3	-0.2	-0.1	0.0	+0.1	+0.2	+0.3	+0.4	+0.5	+0.6	+0.7	10 00
12	0.6	0.5	0.4	0.3	0.2	0.1	0.0	0.1	0.2	0.2	0.3	0.4	0.5	0.5	12
14	0.5	0.4	0.3	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.5	14
16	0.4	0.3	0.3	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	16
18	0.4	0.3	0.2	0.2	0.1	-0.1	0.0	+0.1	0.1	0.2	0.2	0.3	0.3	0.4	18
20 00	-0.3	-0.3	-0.2	-0.2	-0.1	0.0	0.0	0.0	+0.1	+0.1	+0.2	+0.2	+0.3	+0.3	20 00
25	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	25
30	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	+0.1	0.1	0.1	0.1	0.2	0.2	30
35	0.2	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	35
40	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	+0.1	0.1	0.1	0.1	0.1	40
50 00	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	+0.1	+0.1	+0.1	+0.1	50 00

The graph is entered with arguments temperature and pressure to find a zone letter; using as arguments this zone letter and apparent altitude (sextant altitude corrected for index error and dip), a correction is taken from the table. This correction is to be applied to the sextant altitude in addition to the corrections for standard conditions (for the Sun, stars and planets from page A2-A3 and for the Moon from pages xxxiv and xxxv).