

CORRECTIONS TO BE APPLIED TO SEXTANT ALTITUDE A167

REFRACTION

To be subtracted from sextant altitude (referred to as observed altitude in A.P. 3270)

R ₀	Height above sea level in units of 1 000 ft.												R ₀	R = R ₀ × f				
	0	5	10	15	20	25	30	35	40	45	50	55		0.9	1.0	1.1	1.2	
	Sextant Altitude													R				
	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	
0	90	90	90	90	90	90	90	90	90	90	90	90	0	0	0	0	0	
1	63	59	55	51	46	41	36	31	26	20	17	13	1	1	1	1	1	
2	33	29	26	22	19	16	14	11	9	7	6	4	2	2	2	2	2	
3	21	19	16	14	12	10	8	7	5	4	2	40	1	40	3	3	4	
4	16	14	12	10	8	7	6	5	3	10	2	20	1	30	0	40	3	
5	12	11	9	8	7	5	4	00	3	10	2	10	1	30	0	39	0	
6	10	9	7	5	50	4	50	3	50	3	10	2	10	0	49	0	11	
7	8	10	6	50	4	50	4	00	3	00	2	20	1	50	1	10	0	
8	6	50	5	50	4	00	3	10	2	30	1	50	1	20	0	38	0	
9	6	00	5	10	4	10	3	20	2	40	2	00	1	30	1	00	0	
10	5	20	4	30	3	40	2	50	2	10	1	40	1	10	0	35	0	
12	4	30	3	40	2	50	2	20	1	40	1	10	0	37	0	11	0	
14	3	30	2	50	2	10	1	40	1	10	0	34	0	09	0	14	0	
16	2	50	2	10	1	40	1	10	0	37	0	10	0	13	0	34	0	
18	2	20	1	40	1	20	0	43	0	15	0	08	0	31	0	52	0	
20	1	50	1	20	0	49	0	23	0	02	0	26	0	46	1	06	0	
25	1	12	0	44	0	19	0	06	0	28	0	48	0	39	1	27	0	
30	0	34	0	10	0	13	0	36	0	55	1	14	0	32	1	51	0	
35	0	06	0	16	0	37	0	59	1	17	1	33	0	51	2	07	0	
40	0	18	0	37	0	58	1	16	1	34	1	49	0	46	2	22	0	
45	0	53	1	14	1	31	1	47	2	03	2	18	2	33	2	47	0	
50	1	10	1	28	1	44	1	59	2	15	2	28	2	43	2	56	0	
55	1	40	1	40	1	53	2	09	2	24	2	38	2	52	3	04	0	
60					2	03	2	18	2	33	2	46	3	01	3	12	0	
							2	53	3	07	3	19	3	31	3	42	0	
f	0	5	10	15	20	25	30	35	40	45	50	55	f	0.9 1.0 1.1 1.2				
Temperature in °C.														f				
0.9	+47	+36	+27	+18	+10	+3	-5	-13	For these heights no temperature correction is necessary, so use R = R ₀ .					0.9	Where R ₀ is less than 10' or the height greater than 35 000 ft. use R = R ₀ .			
1.0	+26	+16	+6	-4	-13	-22	-31	-40						1.0				
1.1	+5	-5	-15	-25	-36	-46	-57	-68						1.1				
1.2	-16	-25	-36	-46	-58	-71	-83	-95						1.2				
	-37	-45	-56	-67	-81	-95												

Choose the column appropriate to height, in units of 1 000 ft., and find the range of altitude in which the sextant altitude lies; the corresponding value of R_o is the refraction, to be subtracted from sextant altitude, unless conditions are extreme. In that case find f from the lower table, with critical argument temperature. Use the table on the right to form the refraction, $R = R_o \times f$.

CORIOLIS (Z) CORRECTION

To be applied by moving the position line a distance Z to starboard (right) of the track in northern latitudes and to port (left) in southern latitudes.

G/S KNOTS	Latitude						G/S KNOTS	Latitude					
	0° 10°	20° 30°	40° 50°	60° 70°	80° 90°			0° 10°	20° 30°	40° 50°	60° 70°	80° 90°	
150	0 1	1 2	3 3	3 4	4 4		550	0 3	5 7	9 11	12 14	14 14	
200	0 1	2 3	3 4	5 5	5 5		600	0 3	5 8	10 12	14 15	16 16	
250	0 1	2 3	4 5	6 6	6 7		650	0 3	6 9	11 13	15 16	17 17	
300	0 1	3 4	5 6	7 7	8 8		700	0 3	6 9	12 14	16 17	18 18	
350	0 2	3 5	6 7	8 9	9 9		750	0 3	7 10	13 15	17 18	19 20	
400	0 2	4 5	7 8	9 10	10 10		800	0 4	7 10	13 16	18 20	21 21	
450	0 2	4 6	8 9	10 11	12 12		850	0 4	8 11	14 17	19 21	22 22	
500	0 2	4 7	8 10	11 12	13 13		900	0 4	8 12	15 18	20 22	23 24	