De Zeezeilers
Zeezeilschool

Moon Pages

Moon Sight Pro Forma

Moon Sight Reduction

Moon Sight

Practical Sextant Navigation – Planets, Stars and Moon

HP

Altitude Corrections

Moon Pages

Moon Sight

The Moon is a quite fast-moving object, making it difficult –but not impossible– to get accurate positions from it.

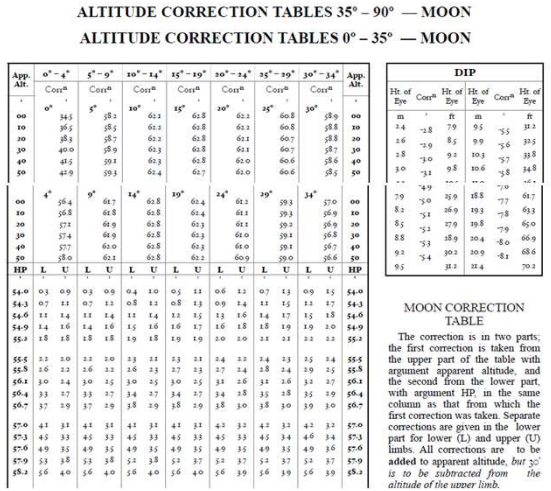
Sometimes, both the Sun and the Moon are visible in the day sky, allowing a quick two-position-line fix.

Taking a Moon Sight Reduction is much like the Planet Reductions (remember v and d ?), with some additional adjustments (HP and UL/LL) and different tables.

Moon

	GHA	v	Dec	d	HP
	30°21.3	17.4′	N02°03.0	14.2′	54.0′
	SD = 14.8′				
Tue	GHA	v	Dec	d	HP
0	11°09.3	16.2′	S09°14.4	13.8′	54.5′
1	25°44.5	16.2′	09°28.2	13.7′	54.5′
2	40°19.6	16.1′	09°41.9	13.7′	54.5′
3	54°54.7	16.0′	09°55.6	13.7′	54.5′
4	69°29.8	16.0′	10°09.3	13.6′	54.5′
5	84°04.8	15.9′	10°22.9	13.6′	54.5′
6	98°39.7	15.9′	S10°36.5	13.6′	54.5′
7	113°14.6	15.8′	10°50.1	13.5′	54.5′
8	127°49.4	15.8′	11°03.6	13.5′	54.6′
9	142°24.2	15.7′	11°17.1	13.5′	54.6′
10	156°58.9	15.7′	11°30.6	13.4′	54.6′
11	171°33.6	15.6′	11°44.0	13.4′	54.6′
12	186°08.2	15.5′	S11°57.4	13.4′	54.6′
13	200°42.7	15.5′	12°10.8	13.3′	54.6′
14	215°17.2	15.4′	12°24.1	13.3′	54.6′
15	229°51.6	15.4′	12°37.4	13.2′	54.7′
16	244°26.0	15.3′	12°50.6	13.2′	54.7′
17	259°00.3	15.2′	13°03.8	13.1′	54.7′
18	273°34.5	15.2′	S13°16.9	13.1′	54.7′
19	288°08.7	15.1′	13°30.0	13.1′	54.7′
20	302°42.8	15.0′	13°43.1	13.0′	54.7′
21	317°16.8	15.0′	13°56.1	12.9′	54.7′
22	331°50.7	14.9′	14°09.0	12.9′	54.8′
23	346°24.6	14.8′	14°21.9	12.9′	54.8′
	SD = 14.9′				

In the Nautical Almanac, in addition to the info on the Daily Pages, two pages are dedicated to the Moon's corrections and DIP.



ALTITUDE CORRECTION TABLES 35° – 90° — MOON

ALTITUDE CORRECTION TABLES 0° – 35° — MOON

App. Alt.	0°–4°	5°–9°	10°–14°	15°–19°	20°–24°	25°–29°	30°–34°	App. Alt.
	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	
′	′	′	′	′	′	′	′	′
00		5°	10°	15°	20°	25°	30°	00
10	34·5	58·2	62·1	62·8	62·2	60·8	58·9	10
20	36·5	58·3	62·2	62·8	62·2	60·8	58·8	20
30	38·3	58·7	62·2	62·8	62·1	60·7	58·8	30
40	40·0	58·9	62·3	62·8	62·1	60·7	58·7	40
50	41·5	59·1	62·3	62·8	62·0	60·6	58·6	50
00	42·9	59·3	62·4	62·7	62·0	60·6	58·5	00
	4°	9°	14°	19°	24°	29°	34°	
10	56·4	61·7	62·8	62·4	62·1	59·3	57·0	10
20	56·8	61·8	62·8	62·4	62·1	59·3	56·9	20
30	57·1	61·9	62·8	62·3	62·1	59·2	56·9	30
40	57·4	61·9	62·8	62·3	62·0	59·1	56·8	40
50	57·7	62·0	62·8	62·3	62·0	59·1	56·7	50
HP	58·0	62·1	62·8	62·2	60·9	59·0	56·6	HP
	L U	L U	L U	L U	L U	L U	L U	
54·0	03 09	03 09	04 10	05 11	06 12	07 13	09 15	54·0
54·3	07 11	07 12	08 12	08 13	09 14	11 15	12 17	54·3
54·6	11 14	11 14	11 14	12 15	13 16	14 17	15 18	54·6
54·9	14 16	14 16	15 16	16 17	16 18	18 19	19 20	54·9
55·2	18 18	18 18	19 18	19 19	20 20	21 21	22 22	55·2
55·5	22 20	22 20	23 21	23 21	24 22	24 23	25 24	55·5
55·8	26 22	26 22	26 23	27 23	27 24	28 24	29 25	55·8
56·1	30 24	30 25	30 25	30 25	31 26	32 26	32 27	56·1
56·4	33 27	33 27	34 27	34 27	34 28	35 28	35 29	56·4
56·7	37 29	37 29	38 29	38 29	38 30	38 30	39 30	56·7
57·0	41 31	41 31	41 31	41 31	42 32	42 32	42 32	57·0
57·3	45 33	45 33	45 33	45 33	45 33	45 34	46 34	57·3
57·6	49 35	49 35	49 35	49 35	49 35	49 35	49 36	57·6
57·9	53 38	53 38	52 38	52 37	52 37	52 37	52 37	57·9
58·2	56 40	56 40	56 40	56 40	56 39	56 39	56 39	58·2

DIP					
Ht. of Eye	Corrⁿ	Ht. of Eye	Ht. of Eye	Corrⁿ	Ht. of Eye
m	′	ft	m	′	ft
2·4	−2·8	7·9	9·5	−5·5	31·2
2·6	−2·9	8·5	9·9	−5·6	32·5
2·8	−3·0	9·2	10·3	−5·7	33·8
3·0	−3·1	9·8	10·6	−5·8	34·8
3·2	−3·2	10·5	11·0	−5·9	36·1
7·9	−5·0	25·9	18·8	−7·7	61·7
8·2	−5·1	26·9	19·3	−7·8	63·3
8·5	−5·2	27·9	19·8	−7·9	65·0
8·8	−5·3	28·9	20·4	−8·0	66·9
9·2	−5·4	30·2	20·9	−8·1	68·6
9·5		31·2	21·4		70·2

MOON CORRECTION TABLE

The correction is in two parts; the first correction is taken from the upper part of the table with argument apparent altitude, and the second from the lower part, with argument HP, in the same column as that from which the first correction was taken. Separate corrections are given in the lower part for lower (L) and upper (U) limbs. All corrections are to be **added** to apparent altitude, *but* 30′ *is to be subtracted from the altitude of the upper limb.*

Differences from a Planet Sight

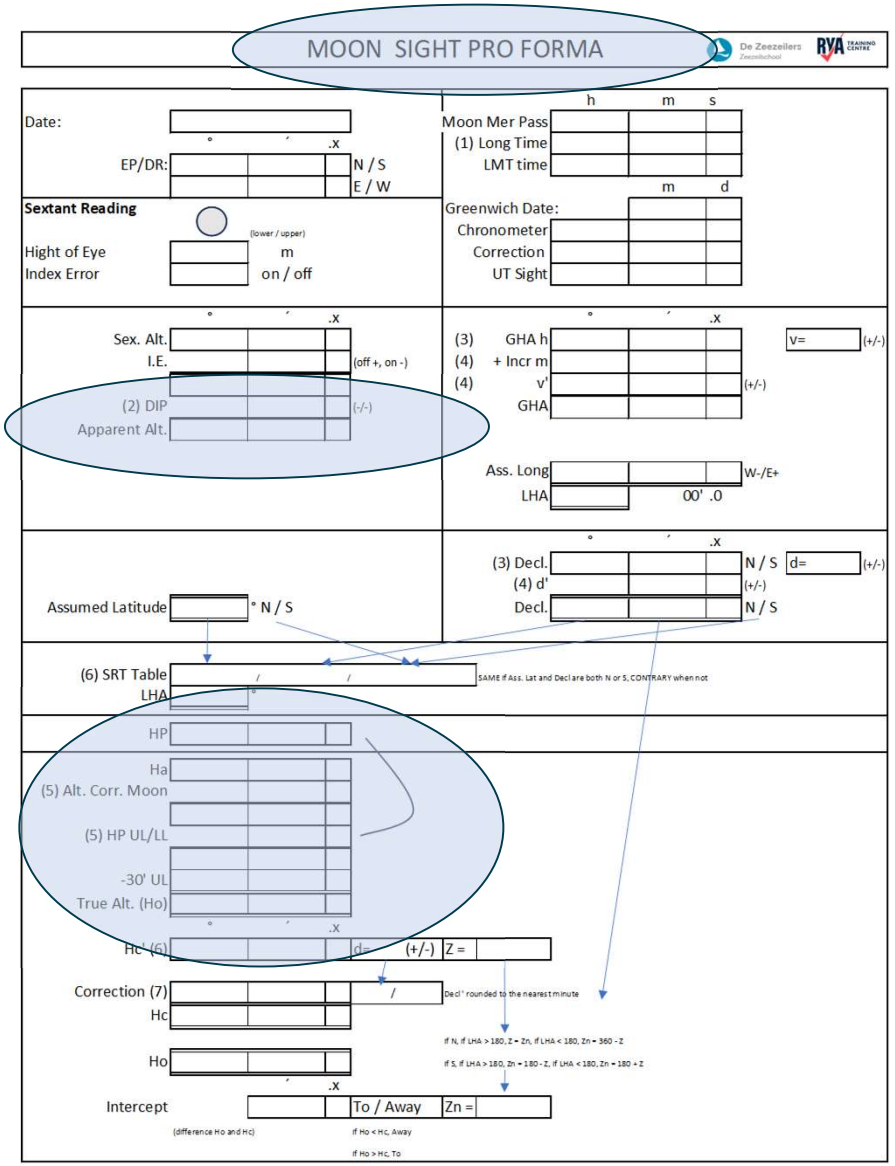
Altitude Correction

Horizontal Paralax LL/UL

-30° UL

Moon Sight Pro Forma

Moon Sight



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Moon Sight Planning

Altitude Correction Moon Dip

Daily Pages Moon Tables

Moon Sight 1st Steps

Moon Sight

Day	Sun Eqn.of Time 00h mm:ss	Sun Eqn.of Time 12h mm:ss	Sun Mer. Pass hh:mm	Moon Mer.Pass. Upper hh:mm	Moon Mer.Pass. Lower hh:mm	Moon Age 13-15 92-99%
S 60°	16:12	16:11	16:10	03:56	05:18	06:43
21	01:18	01:24	11:59	22:34	10:15	
22	01:30	01:35	11:58	23:14	10:54	
23	01:41	01:47	11:58	23:56	11:35	

Lat.	Moonrise Sun	Moonrise Mon	Moonrise Tue	Moonset Sun	Moonset Mon	Moonset Tue
N 72°	16:50	18:52	21:13	04:17	03:45	03:08
N 70°	16:47	18:39	20:43	04:16	03:51	03:24
N 40°	16:31	17:31	18:33	04:08	04:27	04:48
35°	16:30	17:27	18:25	04:08	04:30	04:54
30°	16:29	17:23	18:18	04:07	04:32	04:59
20°	16:28	17:16	18:06	04:06	04:37	05:08
N 10°	16:26	17:10	17:56	04:05	04:40	05:16
0°	16:25	17:04	17:46	04:05	04:44	05:24
S 10°	16:24	16:59	17:36	04:04	04:47	05:32

Upper: Mer Pass at Greenwich
Lower: at 180° Meridian

On April 23, in our N/E position, the Moon is almost full, and visible from ±10.00 am till ± 20.00pm UT.

HP is the Horizontal Parallax factor to find the correction value (see next slide)

Moon

Tue	GHA	v	Dec	d	HP
0	11°09.3	16.2'	S09°14.4	13.8'	54.5'
1	25°44.5	16.2'	09°28.2	13.7'	54.5'
2					
13	200°42.7	15.5'	12°10.8	13.3'	54.6'
14	215°17.2	15.4'	12°24.1	13.3'	54.6'
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23	346°24.6	14.8'	14°21.9	12.9'	54.8'
	SD = 14.9'				

MOON SIGHT PRO FORMA

De Zeezeilers Zeezeilschool — RYA TRAINING CENTRE

Date:	April 23, 2024					
	°	'	.x			
EP/DR:	16 °	48'		N / S		
	127 °	43'		E / W		
Sextant Reading						
	(lower / upper)					
Hight of Eye	4.0	m				
Index Error	3.0	on / off				
	°	'	.x			
Sex. Alt.	60°	01'	.5			
I.E.		− 3'	.0	(off +, on -)		
	59°	58'	.5			
(2) DIP		− 3'	.5	(-/-)		
Apparent Alt.	59°	55'	.0			
Assumed Latitude	17 °	N / S				

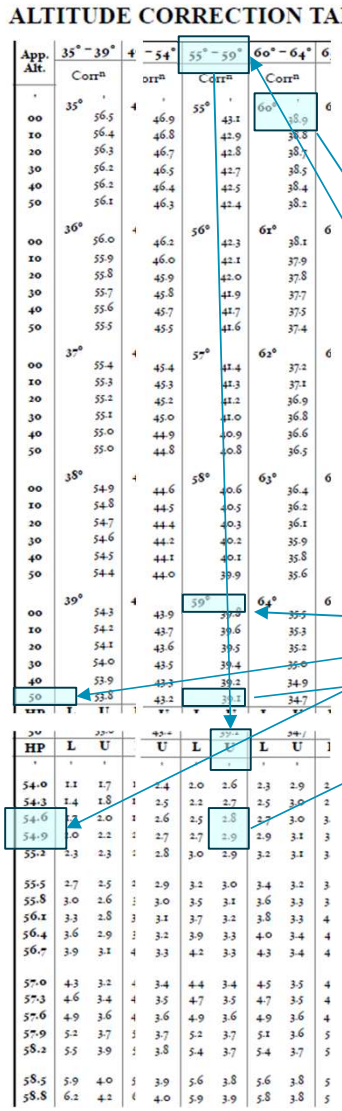
		h	m	s		
Moon Mer Pass		23	56			
(1) Long Time		08	30	52		
LMT time		15	25	08		
			m	d		
Greenwich Date:						
Chronometer			April	23, 2024		
Correction						
UT Sight		15	25	32		
		°	'	.x		
(3)	GHA h	229 °	51'	.6	v=15'.4	(+/-)
(4)	+ Incr m	6 °	05'	.6		
(4)	v'		6'	.5	(+/-)	
	GHA	236 °	03'	.7		
Ass. Long		127 °	56'	.3	W / E+	
LHA		364 °	00' .0			
		- 360° = 004°				
		°	'	.x		
(3) Decl.		12°	37'	.4	N / S	d=13'.2 (+/-)
(4) d'			5'	.6	(+/-)	
Decl.		12 °	43'	.0	N / S	

Moon Sextant Altitude Correction

HP/UL correction

Moon Sight Reduction

Moon Sight



The Sextant Altitude Corrections are found in one of the two available tables on de Daily Pages for the Moon.

The sextant reading requires an additional correction for the Horizontal Parallax error. The HP is given on the Daily Moon Pages with the GHA, v, Decl and d.

The corresponding HP correction is found in the Altitude Correction Tables for the Moon in the Nautical Almanac.