

## CORRECTION FOR PRECESSION AND NUTATION

LHA Y	North latitudes						0°	South latitudes						LHA Y
	N 80°	N 70°	N 60°	N 50°	N 40°	N 20°		S 20°	S 40°	S 50°	S 60°	S 70°	S 80°	
<b>2012</b>														
0	1.0 026	1.2 041	1.5 051	1.7 057	2.0 061	2.3 065	2.4 067	2.2 065	1.9 060	1.6 055	1.4 047	1.2 035	1.0 018	0
30	1.2 049	1.5 058	1.7 063	2.0 067	2.1 069	2.4 071	2.3 070	2.0 067	1.5 059	1.2 052	1.0 038	0.8 017	0.8 349	30
60	1.3 072	1.6 075	1.9 078	2.1 079	2.2 080	2.4 080	2.2 079	1.8 077	1.2 070	0.8 061	0.5 040	0.4 351	0.6 311	60
90	1.3 093	1.6 093	1.9 092	2.1 092	2.3 092	2.4 092	2.2 092	1.7 093	1.1 094	0.7 097	0.3 106	0.2 241	0.6 262	90
120	1.3 115	1.6 110	1.8 107	2.1 105	2.2 104	2.4 103	2.2 104	1.9 107	1.3 115	1.0 124	0.7 143	0.5 179	0.7 216	120
150	1.2 138	1.4 127	1.7 121	1.9 117	2.1 114	2.3 111	2.3 112	2.1 114	1.6 121	1.4 128	1.1 139	0.9 157	0.9 181	150
180	1.0 162	1.2 145	1.4 133	1.6 125	1.9 120	2.2 115	2.4 113	2.3 115	2.0 119	1.7 123	1.5 129	1.2 139	1.0 154	180
210	0.8 191	0.8 163	1.0 142	1.2 128	1.5 121	2.0 113	2.3 110	2.4 109	2.1 111	2.0 113	1.7 117	1.5 122	1.2 131	210
240	0.6 229	0.4 189	0.5 140	0.8 119	1.2 110	1.8 103	2.2 101	2.4 100	2.2 100	2.1 101	1.9 102	1.6 105	1.3 108	240
270	0.6 278	0.2 299	0.3 074	0.7 083	1.1 086	1.7 087	2.2 088	2.4 088	2.3 088	2.1 088	1.9 088	1.6 087	1.3 087	270
300	0.7 324	0.5 001	0.7 037	1.0 056	1.3 065	1.9 073	2.2 076	2.4 077	2.2 076	2.1 075	1.8 073	1.6 070	1.3 065	300
330	0.9 359	0.9 023	1.1 041	1.4 052	1.6 059	2.1 066	2.3 068	2.3 069	2.1 066	1.9 063	1.7 059	1.4 053	1.2 042	330
360	1.0 026	1.2 041	1.5 051	1.7 057	2.0 061	2.3 065	2.4 067	2.2 065	1.9 060	1.6 055	1.4 047	1.2 035	1.0 018	360
<b>2013</b>														
0	1.4 026	1.7 041	2.0 051	2.3 057	2.6 061	3.0 066	3.1 067	2.9 065	2.5 060	2.2 055	1.8 047	1.5 035	1.3 017	0
30	1.6 050	2.0 059	2.3 064	2.6 067	2.9 069	3.1 071	3.1 070	2.7 067	2.0 060	1.7 052	1.3 038	1.1 016	1.0 348	30
60	1.7 072	2.1 076	2.5 078	2.8 079	3.0 080	3.1 080	2.9 080	2.4 077	1.6 070	1.1 062	0.7 041	0.5 350	0.8 310	60
90	1.7 094	2.2 093	2.5 093	2.8 092	3.0 092	3.1 092	2.9 092	2.3 093	1.4 095	0.9 098	0.4 109	0.2 238	0.7 261	90
120	1.7 116	2.1 111	2.4 107	2.7 105	3.0 104	3.1 103	3.0 104	2.5 107	1.7 115	1.3 124	0.9 143	0.7 178	0.9 215	120
150	1.5 138	1.9 128	2.2 121	2.5 117	2.8 114	3.1 112	3.1 112	2.8 114	2.2 121	1.8 128	1.5 139	1.2 157	1.1 181	150
180	1.3 163	1.5 145	1.8 133	2.2 125	2.5 120	2.9 115	3.1 113	3.0 114	2.6 119	2.3 123	2.0 129	1.7 139	1.4 154	180
210	1.0 192	1.1 164	1.3 142	1.7 128	2.0 120	2.7 113	3.1 110	3.1 109	2.9 111	2.6 113	2.3 116	2.0 121	1.6 130	210
240	0.8 230	0.5 190	0.7 139	1.1 118	1.6 110	2.4 103	2.9 100	3.1 100	3.0 100	2.8 101	2.5 102	2.1 104	1.7 108	240
270	0.7 279	0.2 302	0.4 071	0.9 082	1.4 085	2.3 087	2.9 088	3.1 088	3.0 088	2.8 088	2.5 087	2.2 087	1.7 086	270
300	0.9 325	0.7 002	0.9 037	1.3 056	1.7 065	2.5 073	3.0 076	3.1 077	3.0 076	2.7 075	2.4 073	2.1 069	1.7 064	300
330	1.1 359	1.2 023	1.5 041	1.8 052	2.2 059	2.8 066	3.1 068	3.1 068	2.8 066	2.5 063	2.2 059	1.9 052	1.5 042	330
360	1.4 026	1.7 041	2.0 051	2.3 057	2.6 061	3.0 066	3.1 067	2.9 065	2.5 060	2.2 055	1.8 047	1.5 035	1.3 017	360
<b>2014</b>														
0	1.7 026	2.1 041	2.5 051	2.9 057	3.2 061	3.8 066	3.9 067	3.7 065	3.1 060	2.7 055	2.3 047	1.9 035	1.6 017	0
30	2.0 050	2.4 059	2.9 064	3.3 067	3.6 069	3.9 071	3.8 070	3.3 067	2.5 060	2.0 052	1.6 038	1.3 016	1.3 348	30
60	2.1 072	2.6 076	3.1 078	3.5 079	3.7 080	3.9 080	3.6 080	3.0 077	1.9 070	1.4 062	0.9 041	0.7 350	1.0 310	60
90	2.2 094	2.7 093	3.1 093	3.5 092	3.7 092	3.9 092	3.6 092	2.8 093	1.7 095	1.1 098	0.5 109	0.3 238	0.9 261	90
120	2.1 116	2.6 111	3.0 107	3.4 105	3.7 104	3.9 103	3.7 104	3.1 107	2.1 115	1.6 124	1.1 143	0.9 178	1.1 215	120
150	1.9 138	2.3 128	2.7 121	3.1 117	3.5 114	3.9 112	3.9 112	3.4 114	2.7 121	2.3 128	1.9 139	1.5 157	1.4 181	150
180	1.6 163	1.9 145	2.3 133	2.7 125	3.1 120	3.7 115	3.9 113	3.8 114	3.2 119	2.9 123	2.5 129	2.1 139	1.7 154	180
210	1.3 192	1.3 164	1.6 142	2.0 128	2.5 120	3.3 113	3.8 110	3.9 109	3.6 111	3.3 113	2.9 116	2.4 121	2.0 130	210
240	1.0 230	0.7 190	0.9 139	1.4 118	1.9 110	3.0 103	3.6 100	3.9 100	3.7 100	3.5 101	3.1 102	2.6 104	2.1 108	240
270	0.9 279	0.3 302	0.5 071	1.1 082	1.7 085	2.8 087	3.6 088	3.9 088	3.7 088	3.5 088	3.1 087	2.7 087	2.2 086	270
300	1.1 325	0.9 002	1.1 037	1.6 056	2.1 065	3.1 073	3.7 076	3.9 077	3.7 076	3.4 075	3.0 073	2.6 069	2.1 064	300
330	1.4 359	1.5 023	1.9 041	2.3 052	2.7 059	3.4 066	3.9 068	3.9 068	3.5 066	3.1 063	2.7 059	2.3 052	1.9 042	330
360	1.7 026	2.1 041	2.5 051	2.9 057	3.2 061	3.8 066	3.9 067	3.7 065	3.1 060	2.7 055	2.3 047	1.9 035	1.6 017	360

The above table gives the correction to be applied to a position line or a fix for the effects of precession and nutation from the mean equinox of 2010.0. Each entry consists of the distance (in bold type) in nautical miles, and the direction (true bearing) in which the position line or fix is to be moved. The table is entered firstly by the year, then by choosing the column nearest the latitude and finally the entry nearest the LHA Y of observation; no interpolation is necessary, though in extreme cases near the beginning or end of a year (but not the end of 2009 or the beginning of 2010 when the corrections are zero) values midway towards those of the previous or following years may be taken.

*Example.* In 2014 a fix is obtained in latitude N 35° when LHA Y is 199°. Entering the table with the year 2014, latitude N 40°, and LHA Y 210° gives **2.5' 120°** which indicates that the fix is to be transferred 2.5 miles in true bearing 120°.