

|  |                             |                             |                             |
|--|-----------------------------|-----------------------------|-----------------------------|
| <b>1 Estimated position at the time of fix:</b>            |                             | Navigator                   |                             |
| DR/EP:   | Lat. $\circ$ / $'$          | Long. $\circ$ / $'$         | Height of eye m/ft          |
| <b>2 Convert Dates/Times:</b>                              | Year month d h m s          | Index Error $'$             | on arc $-$<br>off arc $+$   |
| Fix, local date and time                                   | 20                          | Course $^{\circ}$ T         | Temp. $^{\circ}$ C/F        |
| Zone correction, $\frac{W}{E} +$ ZT                        |                             | Speed kn                    | Pressure mb/in              |
| Greenwich date & UT $UT_f$                                 | 20                          | Depart                      | To                          |
| <b>Observations of</b>                                     |                             |                             |                             |
| Local date   | 20                          | 20                          | 20                          |
|  | h m s                       | h m s                       | h m s                       |
| Local watch time DWT                                       |                             |                             |                             |
| Watch error, $\frac{fast}{slow} -$ DWE                     |                             |                             |                             |
| Local time   |                             |                             |                             |
| Zone correction, $\frac{W}{E} +$ ZT                        |                             |                             |                             |
| UT (Greenwich date) UT                                     | ( )                         | ( )                         | ( )                         |
| UT of Fix $UT_f$   |                             |                             |                             |
| Fix $\frac{later}{earlier} +$ $UT_f - UT$                  |                             |                             |                             |
| <b>3 GHAY: Table 4:</b>                                    | $\circ$ / $'$               | $\circ$ / $'$               | $\circ$ / $'$               |
| Greenwich date (year, mth, I)                              | ( )                         |                             |                             |
| Day and hours (b) $d$                                      |                             |                             |                             |
| Minutes and seconds (c)                                    |                             |                             |                             |
| Sum = (a) + (b) + (c) GHAY                                 |                             |                             |                             |
| <b>4 AP longitude, <math>\frac{E}{W} +</math></b>          |                             |                             |                             |
| Sum  |                             |                             |                             |
| $\pm 360^{\circ}$ if required                              |                             |                             |                             |
| GHAY + AP Long LHAY  | $\circ$                     | $\circ$                     | $\circ$                     |
| <b>5 Correct sextant altitudes:</b>                        | $'$ $\circ$ / $'$           | $'$ $\circ$ / $'$           | $'$ $\circ$ / $'$           |
| Sextant altitude $H_s$                                     | .                           | .                           | .                           |
| Index error, $\frac{on\ arc}{off\ arc} -$ IE               | .                           | .                           | .                           |
| Dip, Table 8a (ht m/ft) $D$                                | .                           | .                           | .                           |
| Sum $IE + D$   | .                           | .                           | .                           |
| Apparent altitude $H_a$                                    | .                           | .                           | .                           |
| Refraction, Table 8b ( $H_a$ ) $R$                         | .                           | .                           | .                           |
| and Table 8c (T, P, $H_a$ )                                | ( $^{\circ}$ , )            | ( $^{\circ}$ , )            | ( $^{\circ}$ , )            |
| Observed altitude $H_o$                                    | .                           | .                           | .                           |
| <b>6 Extract tabulated alt/az:</b>                         |                             |                             |                             |
| (AP latitude, LHAY) $H_c$                                  | ( $^{\circ}$ , $^{\circ}$ ) | ( $^{\circ}$ , $^{\circ}$ ) | ( $^{\circ}$ , $^{\circ}$ ) |
| <b>7 Intercept = <math>H_o - H_c</math> <math>p</math></b> | .                           | .                           | .                           |
| Azimuth $Z_n$  | $^{\circ}$                  | $^{\circ}$                  | $^{\circ}$                  |
| <b>8 (a) Motion of vessel:</b>                             |                             |                             |                             |
| $\pm 360^{\circ}$ if required                              |                             |                             |                             |
| True track of vessel $C$                                   |                             |                             |                             |
| $Z_n - C$ Rel. $Z_n$                                       |                             |                             |                             |
| Table 1(DMG, Rel. $Z_n$ ) MOO                              | ( nm)                       | ( nm)                       | ( nm)                       |
| <b>(b) Motion of body: Table 2</b>                         | m s                         | m s                         | m s                         |
| (Lat, $Z_n$ ), $UT_f - UT$ MOB                             | .                           | .                           | .                           |
| <b>(c) Precession &amp; nutation:</b>                      |                             |                             |                             |
| Table 5, (year, Lat, LHAY)                                 | .                           | .                           | .                           |
| <b>9 Intercept, corrected</b>                              | .                           | .                           | .                           |
| $\frac{+}{-}$ towards/away $p$                             | .                           | .                           | .                           |
| Azimuth (step 7) $Z_n$                                     | $^{\circ}$                  | $^{\circ}$                  | $^{\circ}$                  |