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AN EPITOME OF NAVIGATION

ORIGINALLY BY
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this table are needed for correcting marine sextant observations of the sun. For low altitudes or extremes of temperature or atmospheric pressure, a correction from the table on almanac page A4 (or tables 23 and 24 of volume 11) should be applied.

"Stars and planets," on the inside front cover and repeated on the loose bookmark, gives mean refraction only, for the main tabulation. This is a critical type table, with altitude as the entering argument. The correction is always negative. In ordinary navigation, index correction, dip, and the correction from this table are the only ones needed for stars and the planets Jupiter and Saturn. For Venus and Mars, an additional correction for parallax and phase is given to the right of the main tabulation. The entering altitudes are limited to those occurring during twilight. If observations are made at other times, this additional correction should not be applied even though the altitude may fall within the tabulated range.

"Dip," on the inside front cover and repeated on the loose bookmark, is for dip of the horizon. An abbreviated dip table is also given on the page facing the inside back cover. The tables are of the critical type, and the entering argument is the height of the observer's eye, in feet and meters, above the surface of the sea. The correction, always negative, applies to all observations made with the visible sea horizon as a reference.

"Additional Correction Tables" for nonstandard conditions, given on almanac page A4, provides an additional correction for nonstandard temperature and atmospheric pressure. The sign of each correction is indicated. Equivalent information is given, with increased range of entering values, in tables 23 and 24 of volume 11.

"Altitude Correction Tables—Moon," on the inside back cover and facing page, gives mean refraction, semidiameter, augmentation, and parallax. The entering argument is altitude for the upper portion of the table, and altitude and horizontal parallax for the lower portion. The combined correction is always positive, but 30' is to be subtracted from the altitude of the upper limb. In ordinary navigation, index correction, dip, and the correction from this table are needed in correcting marine sextant observations of the moon.

The various separate corrections available from the *Nautical Almanac* can be found as follows:

Dip. Dip table on inside front cover and repeated on loose bookmark, and on the page facing the inside back cover.

Refraction. Mean refraction from "Stars and Planets" table on inside front cover and repeated on loose bookmark, and on the facing page.

Semidiameter. For the sun, the semidiameter for the middle day of each page opening of this daily page section is given at the bottom of the sun GHA column. For the moon, semidiameter for each day is given at the bottom of the moon data column. The values given are for GMT 1200 on the dates indicated.

Parallax. For the sun, parallax in altitude can be considered 0.1' for altitudes 0° to 70°07', and 0.0' for higher altitudes, with negligible error. This is based upon the mean value of 8.794. For the moon, horizontal parallax each hour is tabulated on the daily pages. Parallax in altitude is this value multiplied by the cosine of the altitude.

If artificial-horizon sextant altitudes of the sun or moon are corrected by *Nautical Almanac*, the upper and lower limb corrections can be found and the average computed.

1620. Corrections by Air Almanac.—In the *Air Almanac*, various corrections applicable to hand-held marine sextant observations are given separately in critical type tables, to the nearest whole minute (nearest two or five minutes of refraction for low altitudes), as follows:

Dip. Inside back cover.

Refraction. Near the back. Aboard ship use the values for zero height.

Air temperature. New adjustment to mean table.

Semidiameter. For moon's P in A. Values

Parallax. For the horizontal parallax is the

1621. Correcting alt observations obtained corrected as shown in

Example 1. On Jun sextant having an IC of

Required. Ho using
Solution.—

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Example 2.—On Jun sextant having an IC of

Required.—Ho using
Solution.—

(1)

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A convenient work corrections can be ente the corrections from th If additional correction Observations by artific observations and back

1622. Correcting al the visible horizon as examples:

Example 1.—At ab observed with a marin feet. The hs is 18°04'6