Bowditch Thompson Method

Developed by David Thompson, published by him in 1825. Adopted by Bowditch in the New American Practical Navigator in 1837.

1. Observe altitudes of Moon and Sun, Hm and Hs, and lunar distance, LD. Correct each for IC.

2. Pre-clear altitudes: +12 for LL, -20 for UL.

3. Pre-clear distance:
Near: +SDm (augmented) +SDs, Far: -SDm.

4. Decimalize pre-cleared alts and LD:
Hm, Hs, LD:
decimalized angle = deg+min/60

5. Calculate (by calculator or logarithms)
$P1 = HP \cdot \sin(Hm) / \tan(LD)$
$P2 = HP \cdot \sin(Hs) / \sin(LD)$
and
$P = P1 - P2$.
This is the effect of the Moon's parallax along the lunar arc.

6. Enter Bowditch Table XLVIII or "Third Correction" table and get nearest entry for distance below and distance above. Interpolate between if necessary. This combines all remaining corrections: refractions for Moon and Sun and quadratic terms.

7. LDcleared = LD + P + Third Correction.

8. Interpolate between "almanac" values LDbefore, LDafter to get GMT.