1944, Noonan never read this book

RESTRICTED

DR

for finding LOP, not

longitude

nenon is where this line

crosses your course line. Solve this mathematically as follows: GOT of 1st DR position 10:00

GCT of sunrise 10:50

GCT of 2nd I GCT of 2nd I Noonan had a sextant Emergency = better than

The sun rise nothing

(02:00) after th

 $\frac{5}{9} \ge 120 = 66.6$ minutes. Sunrise occurs at 11:07.

LOPs by Sunrise or Sunset

In an emergency you can use the observed time of sunrise or sunset to determine a LOP with a moderate degree of accuracy. Note the GCT when the sun's upper limb becomes tangent to the visible horizon. Use the <u>Air Almanac</u> to determine the LCT of the phenomenon, <u>being sure to make the additional</u> correction for altitude of the airplane. Extract values of LCT for latitudes on either side of your position. The difference between the GCT and the LCT is the longitude in units of time which is then converted into degrees and minutes (use the table in the back of the Almanac). Knowing the longitude for positions on either side of your DR position, plot these time only to whole minute, points and caccuracy limited to 15 NM at your LOP. best

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Example

Flying at approximately 38° N, you observe the GCT of sunrise on 1 January 1944 to be 11:01. Your altitude is 10,000 feet. The P.M. page gives the LCT of sunrise at 35° N and 40° N as 07:08 and 07:22 respectively. The correction for altitude is minus 12 minutes and minus 11 minutes, giving values of 06:56. and 07:11. Subtract these from the GCT of 11:01 to get longitudes of 4 hours and 05 minutes and 3 hours and 50 minutes or 61° 15′ W and 57° 30′ W.

Corrections for Semi-diameter and Dip

Many navigators have found that they obtain excellent results by using moderate accuracy d of zon, the bubble horizon. Whe however, you must make = not good enough all sextant altitudes. The Di to find small island the back cover of the Air Almanac. It is usual practice to make the lower limb of the sun or moon tangent to the sea horizon Add the correction for semi-diameter to the needs correction is given on the A.l unobstructed sea ets. Occasionally it r limb of the moon. is necessa horizon When observing the upper limb, be sure to subtract semi-diameter from your sextant altitude.

