TRICORNE

POTSDAM

SOUTH NEWINGTON SPECIAL

POTSDAM
TRICORNE
Sundial

©Dierck-E.Liebscher
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SOUTH NEWINGTON
GMT
52.00° N
1.410° W

Sundial and Compass

finds time and South

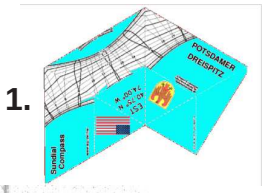
www.aip.de/lie/

GMT bei 52.00° N und 1.410° W

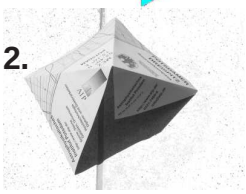
13. März 2009

The variation of solar time against the legal time is already accounted for in the loop. The time that is read off the sundial has a fixed offset when the longitude differs from the indicated one. The difference in eastern longitude between the indicated one and that of the place of observation must be mulitplied by 4 to yield the minutes that have to be added to the time shown by the *Dreispitz*.

The lines that cross the hat show the orbit of the shadow for the indicated date. On the indicated latitude, we find the east-west direction by turning the hat until the shadow of its top falls onto the correct calender line. In other places, one must find this direction by other means. The time is read off the marks on the calender line, taking that crossing of the hour loops that corresponds to the date.

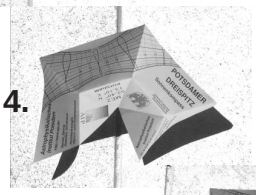


1.

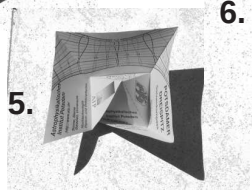


2.

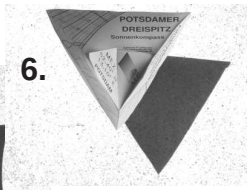
3.



4.



5.

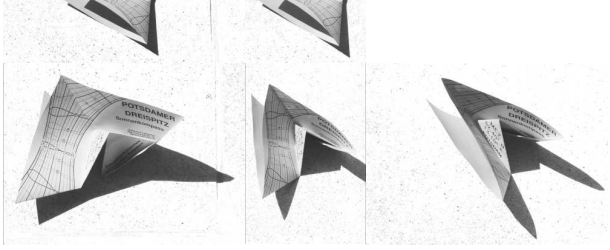


6.

How to proceed:

The model should be cut out neatly (1). Fold it first along the dashed lines outward (2,3). In the next step, fold along the pointed lines inward (4). Now you can compose the hat. The incomplete segment is placed below the opposite one (5). In doing this, a pyramid rises from the center. It is like the top of an obelisk. Fold the lines again such that the paper remains without stress (6).

To fold it flat:



The *Dreispitz* is sundial and compass in one. We can determine the time and the north direction as well. This compass function, however, depends sensitively on the geographic latitude. It works well only for places with a geographic latitude as indicated with an error of less than half a degree. When you know the north, the clock works well for latitudes that differ less than 8 degrees from the indicated one.

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