

TOT Scoring

By George Breig

TOT was tested using 2018 data:

Over the winter, I have studied T-O-T by rescoring last seasons results using Saliwave Software and various constants prescribed for TOT. The end outcome was similar to Time-on-Distance (TOD) that our fleet has used up to this year. In all, it does to some degree level the playing field; but, don't expect results to change dramatically,

How it is calculated:

The simplest explanation of how it works:

The formula essentially discounts your time based on your elapsed time and PHRF. Distance is not a part of the correction calculation.

Our average wind speed was 10.1 knots. Mostly 8-12 Knots. Range: 5-20 Knots
The constant of **550** seems like a solid compromise for our normal wind conditions.
With our wind profile last year, the advantage, if any, gets spread around.

(Note: not real time data)

Boat 1: PHRF =100 completes the course in 46 minutes (5.2 knots)

Corrected score = 46 min. x .9230 = 42.5 minutes

Boat 2: PHRF= 200 completes the course in 54 minutes (4.5 knots)

Corrected score = 54 min. x .800 = 43.2 minutes

The included article and the links below will give you more insight into how it works.

Here are two links that address T-O-T scoring.

<http://ncphrf.com/timeontime.html>

<http://www.phrfne.org/page/handicapping/timeontime>

Over the past few years, a number of PHRF fleets have started using TOT scoring. It has been found to help some when there is a very large handicap spread in a class or if the race conditions are "abnormal". The following is a TOT conversion formula that is commonly used to convert the standard PHRF TOD handicap into a TOT Time Correction Factor (TCF).

$$\text{TCF} = A / (B + \text{PHRF})$$

The denominator, B + PHRF, is the number of seconds it takes to sail a nautical mile in the expected conditions. Another way to look at it is that the denominator divided into

3600 is the average boat speed in knots. Here are some commonly used B factors:

B Factor	When Used
480	Heavy air or all off the wind
550	Average conditions
600	Very light air or all windward work

TCF formula would look like the following:

$$\text{TCF} = 600 / (550 + \text{PHRF})$$

To get the corrected time, simply multiply the elapsed time by the TCF.

TOT scoring is not a cure-all for all the inequities of handicapping. TOT scoring will not turn a fleet upside down. It usually does not affect the top boats. It usually moves the boats in the middle around a little. If the handicap spread in a class is large, it will tend to tighten things up a bit.