

Time on Time Scoring for PHRF®

by John Collins

The vast majority of handicap racing in North America is scored by the Time on Distance (TOD) method. Here a fixed time allowance, based on the length of the course, is used to compute the corrected time. An advantage of TOD is that is simple and you can tell exactly where you stand at any point in the race.

In Europe the Time On Time (TOT) scoring method is popular. Here the time allowance for a given race depends on the time of the race. The reasoning being that smaller boats are at a disadvantage if the race is a slow race if the time allowance doesn't change to account for the conditions of the race. This TOT method is only slightly harder to understand than TOD as the allowance at any point in the race can be affected by a change of conditions later in the race.

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).

$$\text{TCF} = \frac{\text{A}}{\text{B} + \text{PHRF}}$$

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 rhumb line 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	Light air or all windward work

There are no hard and fast rules for selecting the B coefficient. Basically, the lower you select it, the more favorable it will be to the slower boats.

The numerator, A, is merely a coefficient that makes a "nice" looking TCF. Select it so that the TCF for the middle of the fleet is about 1.000. The A coefficient has absolutely no effect on the corrected finish order. Changing it will only affect the various margins. Thus if your middle handicap is about 100 and your conditions are average, then the TCF formula would look like the following:

$$\text{TCF} = \frac{650}{550 + \text{PHRF}}$$

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.