



Handicap Examples From TopYacht.

Definitions.

Elapsed Time:

Elapsed Time = Finish Time minus Start Time

Line Honour:

The order of the boats based purely on elapsed time; shortest elapsed time is at the top of the list.

TCF

Time Correction Factor.

Class Yardstick (YS):

This is a **TCF** for each class that provides meaningful results when comparing times for different classes in a common race. Yardsticks usually have values > 50. A Yard Stick can be converted into a TCF

$$\text{TCF} = 100/\text{YS}$$

CBH

Class Based Handicap. Similar to a **YS** but whose value is usually < 1.0.

$$\text{TCF} = \text{CBH}$$

PHC:

This is also known as

- Club Handicap
- Personal Handicap
- Boat Handicap
- Personal Performance Handicap
- Boat Performance Handicap
- Performance Handicap

A time scale factor that allows meaningful comparison when comparing times for different competitors in a common race; this takes into account the recent performances of that competitor.

Club Handicap Corrected Time:

- Club Handicap corrected time = Elapsed time * PHC; or
- Club Handicap corrected time = Yard Stick Corrected time * PHC

Scratch Results:

Set of results produced by ranking the boats **Corrected Time**, smallest to largest. i.e.. NOT handicap results.

Corrected Time

$$\text{Corrected Time} = \text{Elapsed time} * \text{TCF}$$

Example

The examples that follow are based on trailable yachts. The same principles apply to Dinghy sail boat racing. Routinely Trailable yachts are rated with **CBH**.

An Elliott 7 has a CBH of 0.840. That means that if it completed a course with an elapsed time of 100 minutes then its **Corrected Time** would be $100 * 0.840 = 84.0$ minutes.

A Nolex 25 it has a CBH of 0.725. That means that if it completed a course with an elapsed time of 100 minutes then its Ratings(YS) **Corrected Time** would be $100 * 0.725 = 72.5$ minutes.

Scenario 1

You run a race for three Elliott 7s on a common course

- Elliot One has an elapsed time of 90 minutes.
- Elliot Two has an elapsed time of 100 minutes.
- Elliot Three has an elapsed time of 110 minutes.

So on line honours the order is

- First Elliot One
- Second Elliot Two
- Third Elliot Three

Since all the boats are the same, there is no need to use a TCF. The results are **Scratch Results** as the **Elapsed Times** are the only set of times.

Scenario 2

You run a race with three Elliot 7s and three Nolex 25s on a common course. They are different classes yet we wish to compare their relative performance. We use **corrected times** for comparisons.

- Elliot One has an elapsed time of 90 minutes.
- Elliot Two has an elapsed time of 95 minutes.
- Elliot Three has an elapsed time of 100 minutes.

- Nolex One has an elapsed time of 105 minutes.
- Nolex Two has an elapsed time of 110 minutes.
- Nolex Three has an elapsed time of 115 minutes.

So on Finishing Sequence is

- First Elliot One
- Second Elliot Two
- Third Elliot Three
- Forth Nolex One
- Fifth Nolex Two
- Sixth Nolex Three

While their Ratings **Corrected Times** would be:

Boat	Elapsed Time	TCF	Corrected. Time	Place
Elliot One	90.00	0.840	75.600	1
Elliot Two	95.00	0.840	79.800	4
Elliot Three	100.00	0.840	84.000	6
Nolex One	105.00	0.725	76.125	2
Nolex Two	110.00	0.725	79.750	3
Nolex Three	115.00	0.725	83.375	5

So the Corrected Time results are as follows.

- First: Elliot One

- Second: Nolex One
- Third: Nolex Two
- Forth Elliot Two
- Fifth: Nolex Three
- Sixth Elliot Three

Elliot 7s are significantly faster than Nolex 25s. If you had presented prizes based on Line honours then all the Nolex Sailors would give up or trade their boat in for an Elliot. Whereas on Corrected Time results the racing is totally fair and just reflects the performance of the particular boat on that day.

Scenario 3

As per [Scenario 1](#), but with personal performance handicaps as below.

In this case each competitor has been (previously) allocated a Personal Handicap that reflects the speed of that particular boat whether the speed is due to the boat condition or the skipper/crew skill level.

- Elliot One has an PHC of 1.01.
- Elliot Two has an PHC of 0.93
- Elliot Three has an PHC of 0.91

You run a race for three Elliott 7s on a common course

- Elliot One has an elapsed time of 90 minutes.
- Elliot Two has an elapsed time of 100 minutes.
- Elliot Three has an elapsed time of 110 minutes.

So while the **line honour** results remain unchanged then **Club Handicap Corrected Time** results provide a different outcome.

Performance Handicap Corrected Times are:

Boat	Elapsed Time	PHC	Corrected. Time	Place
Elliot One	90.00	1.010	90.900	2
Elliot Two	95.00	0.930	88.350	1
Elliot Three	100.00	0.910	91.000	3

PHC Results:

- Elliot Two.
- Elliot One.
- Elliot Three.

The advantage of this dual system of Scratch Results and Club Handicap results is that the better sailors win the Scratch results while the less capable skippers/crews(or older boats) still have a chance to win on Club Handicap.

Scenario 4

A repeat of [Scenario 2](#) but we shall add Club Handicaps to each competitor.

- Elliot One has an elapsed time of 90 minutes.
- Elliot Two has an elapsed time of 95 minutes.
- Elliot Three has an elapsed time of 100 minutes.

- Nolex One has an elapsed time of 105 minutes.
- Nolex Two has an elapsed time of 110 minutes.
- Nolex Three has an elapsed time of 115 minutes.

Scratch Results

As with [Scenario 2](#), produce Scratch results using Ratings/Yard Sticks. This gives a fair comparison of classes with no bias/advantage to the faster classes. The Outcome is the same.

Now, to encourage the less capable you also provide Club Handicap results.

Boat	Elapsed Time	TCF	PHC	Corrected. Time	Place
Elliot One	90.00	0.840	1.010	91.809	6
Elliot Two	95.00	0.840	0.930	82.165	4
Elliot Three	100.00	0.840	0.910	82.810	5
Nolex One	105.00	0.725	1.050	79.931	3
Nolex Two	110.00	0.725	0.990	78.952	2
Nolex Three	115.00	0.725	0.920	76.705	1

Club Handicap Results

- First: Nolex Three
- Second: Nolex Two
- Third: Nolex One
- Forth: Elliot Two
- Fifth: Elliot Three
- Sixth: Elliot One

The user sets up TopYacht to produce one, some or all of the scenarios listed above. Additionally, with Mixed Class racing, TopYacht can be configured to extract results for individual classes.

Keep in mind that PHC's reflect the performance of an individual competitor when compared with the other competitors within the boats within the handicap group.

Further Reading:

[PHS Handicapping ~ A Sailors Guide](#)

[How the Next Handicap is Calculated](#)

[Different Lap Racing on a Fixed Course](#)

[Establishing Sensible Starting Handicap for a Regatta or New Season](#)

[Across Group \(Division\) Handicapping](#)

[What Do You Want Your Handicap System to do](#)

[CBH to Yardstick Conversion](#)