



Across Group (Division) Handicapping.

Background

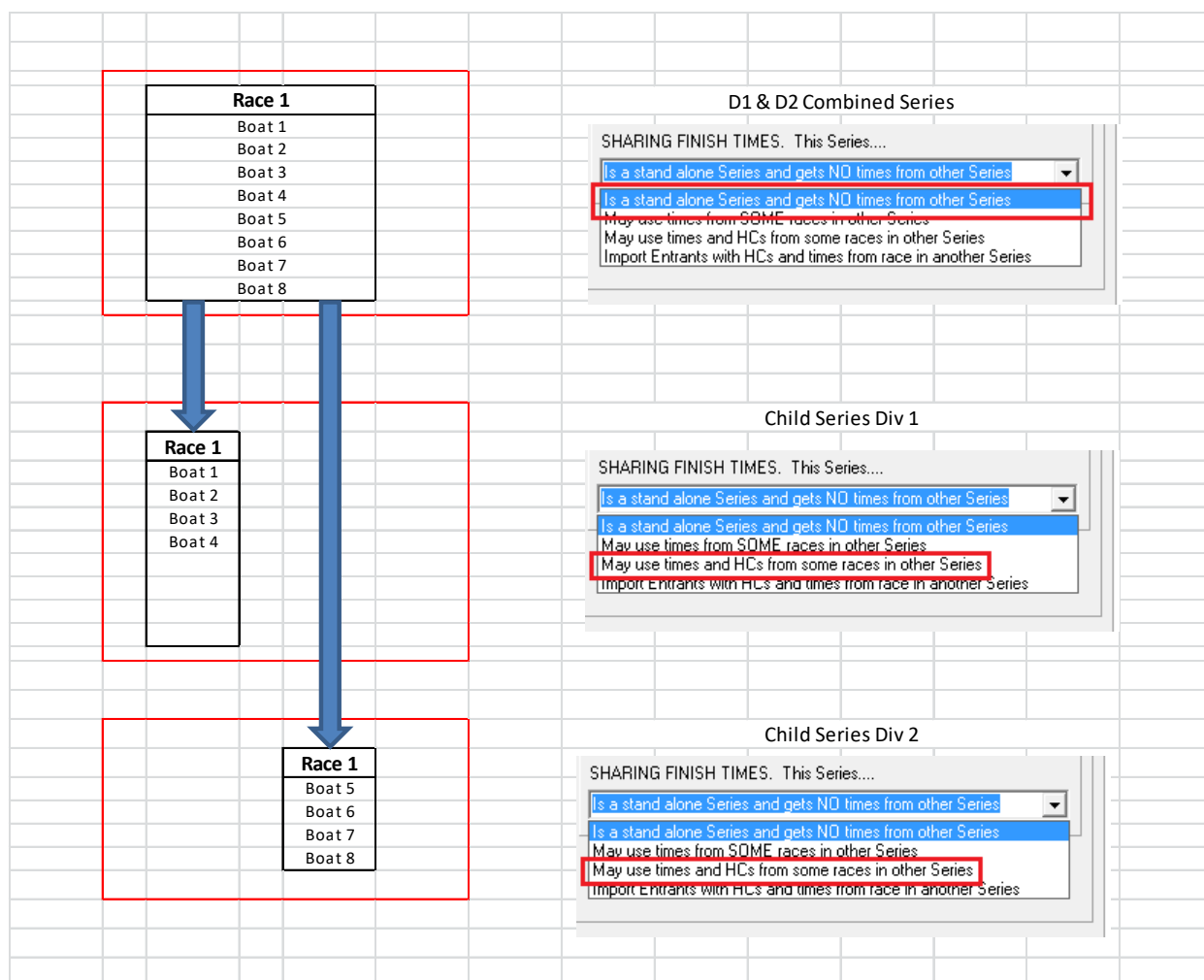
Handicapping a number of boats within one group is quite straight forward. It becomes a little more involved when (say) Division 1 boats and Division 2 boats routinely compete for their own aggregates, but occasionally compete for a global trophy.

It becomes even more involved if Division 1 boats are considerably faster than Division 2, and it is desirable for Division 1 to complete an additional lap (compared with Division 2) to keep the Division 1 boats on the water for a reasonable length of time.

TopYacht has the built-in flexibility to produce meaningful handicaps to score boats for the global trophy. However, there are some race-management traps that need to be avoided so TopYacht can produce meaningful results.

Parent / Child Series

The foundation that makes this possible is the Parent / Child relationship, where child series can be created that share finish times and handicaps values with boats with the same sail number in the parent series.



In the illustration, Boat 1, 2, 3, and 4 are Division 1 boats, and Boat 5, 6, 7 and 8 are Division 2 boats.

All the finish times and handicap calculations are made in the parent series.

The child series uses the allocated handicaps, and finish times to produce separate Division 1 and Division 2 results.

The parent series remains unpublished, but houses the global handicaps.

Setups and Traps

Scenario 1

Division 1 and Division 2 sail around the same marks at the same time.

This is straight forward. There are no traps.

Scenario 2

Division 1 is faster than Division 2. Division 1 sails three laps, Division 2 sails 2 laps around the same marks at the same time.

For this, the different lap count facility must be used

There are two race management traps which will corrupt the results.

Trap 1

The pin-end of the start/finish line must be the leeward mark (or the start/finish line located somewhere up the weather leg) A start/finish line down-wind of the leeward mark is additional distance the fleet must sail. The time to travel between the start / finish and the leeward mark corrupts the computation of the average lap time. The greater this distance, the more the corruption of this calculation.

Trap 2

The definition of a 'lap'. For the traditional 'Olympic' (or Triangle / Windward-Leeward, a lap comprises one triangle **and** one windward-leeward. Therefore, for a fleet to execute two 'laps' they must round the weather mark 4 times to achieve a symmetrical course.

TopYacht has a facility called 'Start-time Offset'. The race management team must estimate the time of travel consumed between the start line and leeward mark, and the leeward mark to the finish. **This facility only works for OTB racing, where the estimated time is made for a particular class, and the class is nominated with the estimated time during the race setup process.**

Scenario 3

Division 1 is faster than Division 2. Division 1 sails a longer weather leg than division 2, but the same number of laps at the same time.

For this, the **different beat length** facility must be configured.

Trap 1

This the same as Scenario 2

Trap 2

This relies on the accurate measurement of the length of the weather leg, and, for Triangle / Windward-Leeward courses, the accurate placement of the apex (or gybe) mark to ensure course symmetry.

Scenario 4

Division 1 and Division 2 sail courses around laid marks. Division 3 sails a passage-type race around fixed marks. On a scheduled basis, all three divisions sail the passage-type course.

For this, TopYacht must be configured to Calculate Handicaps across Divisions. When (and only when) all three divisions sail the passage-type race, all three divisions are allocated the **same** BCH Div Number. In the other cases where Division 1 and Division 2 do their own thing around laid marks, allocate different BCH Div Numbers.

Trap 1

Divisions 1, 2 and 3 must sail the same course to produce meaningful numbers.

Trap 2

Because of the EWMA (see [How the Next Handicap is Calculated](#)), the rate of convergence of the Division 3 handicaps with Divisions 1 & 2 will be slow, limited by the number of races when fleet sails as one.

Keep in Mind!!!

The first time this is attempted, using the existing (starting) handicap numbers, in all likelihood, some of the BCH numbers computed will fall outside the limit values. This is caused by the increased fleet size and BCH numbers being computed for the fleet.

It is suggested that this process be run in parallel for several races until the handicaps converge into one group.

There may be instances where manual intervention is needed to allow convergence, especially if the early BCH numbers fall outside the limits.

When the time is chosen to release the across division handicapping into the public domain, it is wise to advise competitors that there will be a considerable change in their values. A good explanation is needed.

The implementation of

- Different Lap counts;
- Start Offsets;
- Different beat lengths; and
- Calculating handicaps across divisions,

is detailed in TopYacht HELP.