

Test Case

TC117 Race Mark laylines and ladder rungs

Belongs to Plan(s):

TP5 dashboard_tactics...

Belongs to Suite(s):

TS41 Race Dash functi...

Case Type:

Functionality

Label(s):

click to add Label(s)

Test Quality:

GOOD

Test Case Passing

Assign To:

click to add Assign To

Case Priority:

Medium

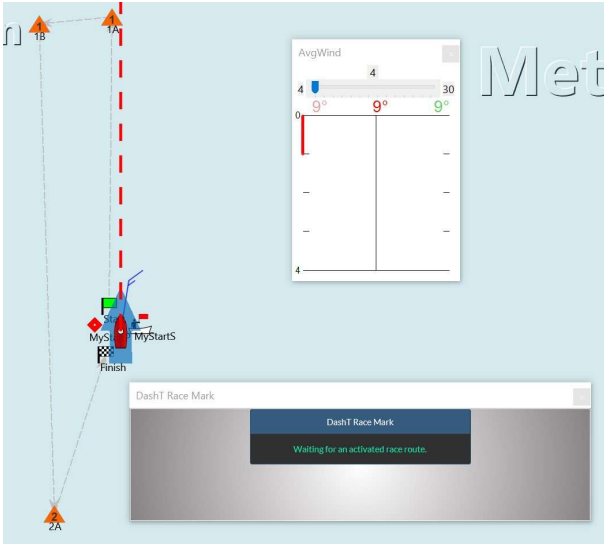
Estimate:

click to add Estimate

Is Automated

Precondition

This test is the second one to execute for Race Dash Mark instrument. Please continue this test right after the test case tc116: we will make another round around the race track but this time by actually "sailing"... The following should be starting position of the test, note again that one should be away from the first mark a distance longer than the mark's arrival radius (which should be set to 0.025 nmi):



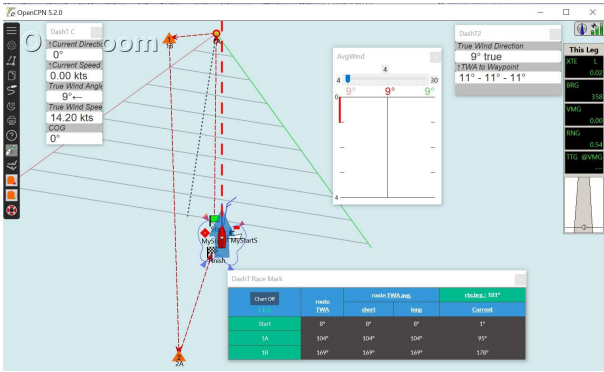
Put on some current from the starboard side, not too much, about 1 - 1.5 knots, in order to make test more realistic.

Now, activate the route, and activate the chart overlay display if it remains inactive from the previous test. A

Steps


Click "Tab" or "Shift + Tab" to navigate grid

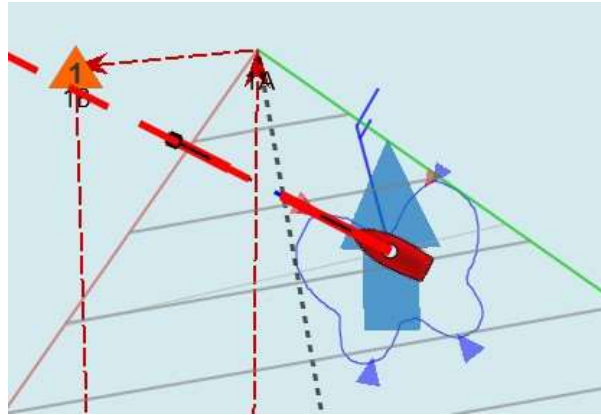
- 1
- !!
- As soon as you "arrive" close to the first mark in this windward leg, the Race DashT Mark gets into action and you should see the following diagram appear, drawn on chart as an overlay:



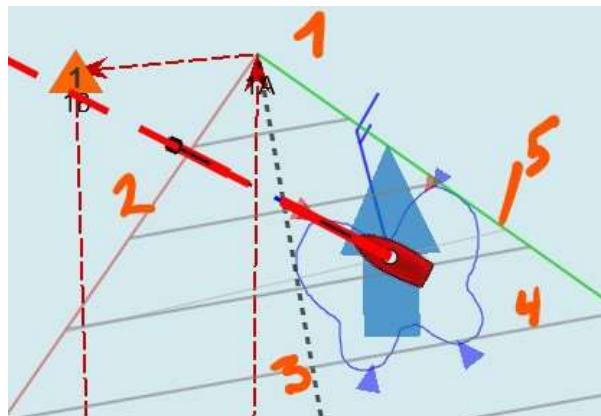
In this case, the wind is veering and the port side is more advantageous to climb towards the next mark. Take a course, say 335 degrees. It does not matter which side you pass the first mark, it is just a virtual mark since we do not want to anchor it to the startline marks, which can be more volatile than the race marks.

- ♂
- PASS: the pattern depicted in the test specification appears.

- 2  Climb towards the windward mark as you would in real race situation, *i.e.* trying to gain steps on the ladder, which means that you should stay closer to the wind median layline, here on the port side instead of the course route. Start adding some wind oscillation so that we can test the tool which allows you to decide whether you should tack or not, are you on a lifted tack or do you get a header - by exaggerating a lot we get the following situation when you approach the windward mark:



Wind has backed (and it has backed a a lot!), now you can see that going to the port of side of the route would be definitely a bad idea! But should we tack now and approach the starboard layline? Is the wind shift we're observing right now persistent? We can get indication from the numerical TWA instruments but in let's look at the graphical indicators this time:





We should have


1. starboard layline
2. port layline
3. wind median layline
4. ladder rungs rotating with wind median
5. a single ladder rung rotating around the short term wind median of the average wind instrument, arranged so that it always pass through the boat's GPS location:

The indicator (5) tells us if we're on the lifted tack or if we got a header. Most importantly it allows us to define if we would continue to sail this tack and still gain height on the ladder of the long term wind median. In this case, can (guess) that the wind shift is going to continue but we still could sail a bit longer on this tack, to reach (at least) the long term wind median, after which is questionable is there any real gain to obtain. But we could, at least wait until that point and see if the wind backing is still continuous.

♂ PASS: you can observe all the indicators (1) to (5).

- 3  Reaching leg between the the windward mark and the spreader mark: the laylines and and other graphical indicators are suspended automatically, and only the median wind layline remains.

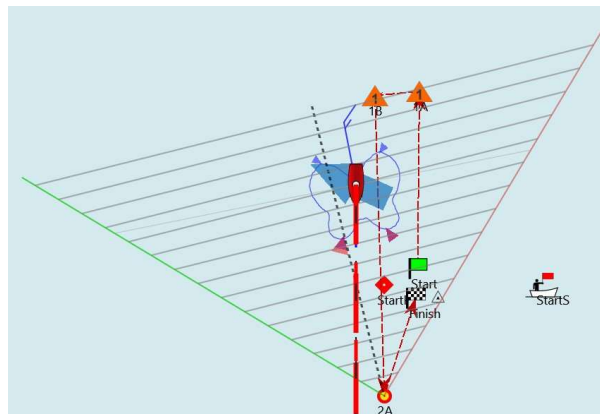
 PASS: the program does not disturb you with sailing instructions when you do not need any!

- 4  Leeward leg: the assisting layline do appear again, this time in inverse format, taking into account that one needs to follow headers instead of lifters, a priori since allowing us to point towards the next marker.


Of course, one can turn the the overlay off and use the numerical information to plan the next leg (final in this case) head sail and/or to use the back mark bearing to keep an eye on the eventual current caused drift.

But in the case of a modern boat, with an asymmetric spinnaker or even a gennaker the strategy remains much the same, but inverse than in the windward leg.

Please note, however the importance to trust more the long term wind average than the short term, or even instantaneous values, especially around the gybes before you boat gets back to a decent speed: the AWA is getting higher suddenly when you boat speed drops. The graphical tool illustrates the above theory:



You can observe that the short term average ladder rung indicates a veering wind. Since you are on the starboard tack, you get a lifter. But that lifter would move you away from the shortest distance to the next mark. Therefore you can consider to gybe now. Or you can decide to wait depending of your overall situation in the race. After all, you are still moving towards the higher ladder rungs...

 PASS: you can observe the inverse logic ladder rungs appearing on the leeward leg.

5 Final leg:



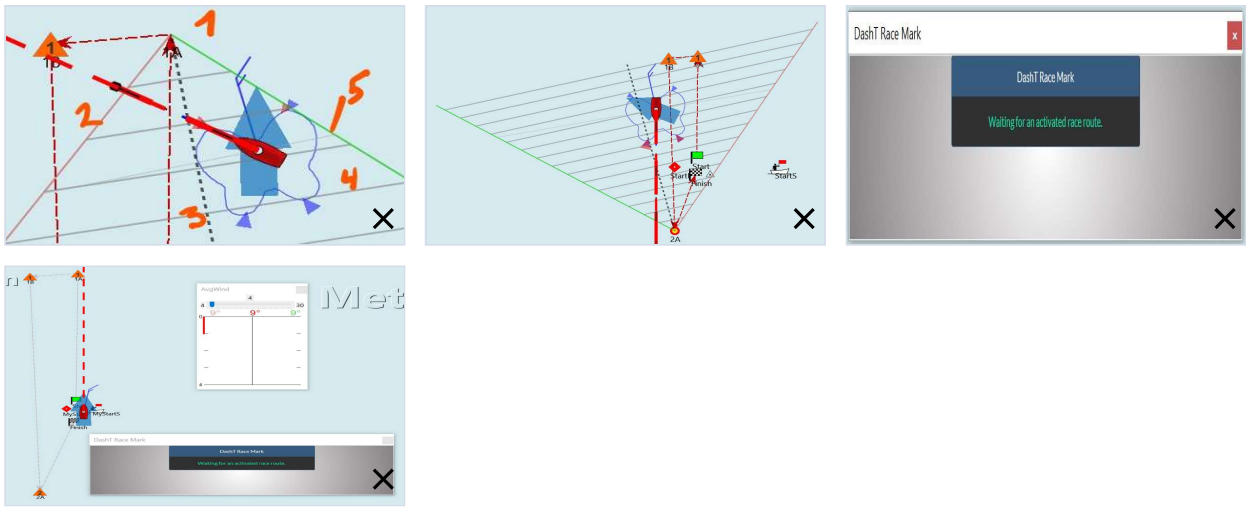
Much like the first leg, and anyway, who has time to watch a computer at this point!? It is more the numerical values which have helped you to select the right sail during the previous leg. Observe, however that the ladder rungs do appear, and that the OpenCPN routing turns off the active route at the arrival to the Finish mark (if you continue the next turn, you need to activate the route again), the numerical instrument indicates this.



♂ PASS: the laylines and ladder rungs do appear logically and they disappear at the arrival radius to the Finish waypoint being passed. One shall be able to continue to the next tour by simply reactivating the route.

⊕ Add Step

Attachments



📎 Add Attachments

| RESULTS | DEFECTS | REQUIREMENTS | | | |
|---------|---------|--------------|--|--|--|
|---------|---------|--------------|--|--|--|

| Status | Test Plan Run | Assigned To | Updated At↑ | Actions |
|--------|----------------------|-----------------|---------------|---------|
| ✓ Pass | TPR93 Race Dash Mark | Petri Makijarvi | 2 minutes ago | |

| ACTIVITY | HISTORY | COMMENTS | |
|----------|---------|----------|--|
|----------|---------|----------|--|

