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Are You Happy with Your Boat Speed?

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The theoretical hull speed of a sailboat is defined by this formula:

$$\text{Hull speed} = 1.34 \times \sqrt{\text{LWL}}$$

For a CS 36T, the hull speed would be 7.25 knots. This formula can only be considered as a guideline. There is no doubt in my mind one can exceed this theoretical hull speed.

However, there are only a few factors that can make a boat go faster but many, many more that will slow it down. We know some external factors that will slow down a boat - wind, waves, tidal current etc. Other factors are maintenance related - a dirty bottom, improper pitch on the propeller or a propeller coated with slime or barnacles. Towing a dinghy or anything hanging over the side of the boat can also slow you down.

I do not think a sailboat can be considered as a fast craft. It is prudent to take advantage of favourable tides and currents. A change of your plans to suit the wind may certainly help. The best sailing I have done is locally when I sailed the wind. When you travel to a particular place you may have to use the engine and it becomes important to go with the tide.

If you have tidal current support of one knot and you travel at five knots, your speed over ground will be six knots. But if you have a tidal current of one knot against you and you travel at five knots your speed over ground will be only four knots. The difference is two knots which then amounts to 50% of your boat speed.

However, all is not lost when you have to buck the tide. One can take advantage of back eddies which are present in many channels - i.e. Trincomali Channel, Malaspina Strait or any inlet that is long and narrow.

A rule of thumb is; "When you go with the tide go mid-channel, but when you are against the tide go as close as possible to shore." The following are two illustrations that clarify the point - both occurred in Malaspina Strait.

- I was heading from Nanaimo to Powell River with the tide supporting me. I noticed that I was losing a knot and a half fairly close to the Texada shore due to the back eddies. I aimed for the middle of the Strait and not only did I pick up the knot and a half but I added another knot to my speed. I gained 30 minutes to Westview over another boat that was trying to pass me but stayed on the Texada shoreline.
- The second example was also in Malaspina Strait and heading for Powell River. This time, I had the tide against me and I was losing one knot over the ground. I noticed four sailboats, which appeared to be of the same size as mine, leaving Blind Bay heading north. I felt confident that I would intersect their course before Powell River. However, when they traveled much faster than my boat, I remembered the rule of thumb, "When against the tide stay close to shore." I aimed for shore and added two knots to my speed. I was able to catch up to the second boat, CS 36 Arbutus Girl, before reaching Westview. Again the back eddies eliminated not only the tide effect but added a knot to my speed.

Only with the help of a GPS can you exactly determine your speed over ground. Your knotmeter will only give you the speed through the water and, even at that, it is probably not too accurate. The paddle wheel that senses the velocity through the water and sends impulses to the knot meter may be gummed

up or wave action will increase or decrease the RPM giving you at false read out. Tidal current can give you an inaccurate knot meter read out. The paddle wheel may be installed to one side of the keel which can give you a faster read out on one tack than on the other tack.

The knot meter can be calibrated to be more accurate. One would have to travel a known distance, time it, calculate your speed and adjust your knot meter. You cannot have any wind, waves or tidal currents. I feel very comfortable adjusting my knot meter to match my GPS.

The third way to set your knot meter is with a clean bottom and no wind, waves or tidal currents. You power to maximum speed and set your knotmeter to theoretical hull speed. You may be a LITTLE FAST but you will always be HAPPY with your boat speed.