

# DOWNWIND SAILING

**In this article Steve Thompson looks at the art of sailing and sail handling of sport boats downwind**

His article is a follow on from previous topics and is written from the perspective of sailing a modern sport boat like the Thompson 7 with asymmetric spinnakers.

One of the more enjoyable aspects of sailing sport boats is downwind sailing. The modern concept of using large asymmetric spinnakers has in my opinion really opened the sport to creating a whole lot more fun.

One of the most important concepts to grasp when sailing with an asymmetric spinnaker with a non or limited rotating bow prod is that the position of the boat relative to the true wind direction dictates the amount of weight on the spinnaker sheet. Regardless of the amount of wind, by pointing the bow further downwind you can reduce the load on the spinnaker sheet to virtually zero, the converse applies when you head the boat further into the wind the sheet load will increase until the boat is overpowered. This principal is used to determine the best angle to sail the boat to obtain maximum Velocity made good (VMG) to the leeward mark. When talking about load on the spinnaker sheet in reality we are measuring the apparent wind angle. The true wind angle is the angle of the wind relative to the boat if the boat was still in the water, the apparent wind angle and speed is the wind generated from the combination of the true wind and the boats motion through the water.

It is very important to have good communication between the helmsman, mainsheet trimmer and spinnaker trimmer. It is a good idea to have these three sitting side by side so that each can feel the others movements when trimming or helming. It is the spinnaker trimmer's responsibility to relay to the helmsperson how much load there is in the sheet so that the helmsman knows whether to steer up or down.

## Downwind Targets - Asymmetric Spinnaker

TWS	BS	TWA	AWA	AWS	Vmg	Heel	GA	S/M
2	2.2	134	61	2	1.5	0.6	91	2331
4	4.3	137	63	3	3.1	2.1	86	1146
6	5.4	143	80	4	4.4	2.6	73	827
8	6.0	149	102	4	5.1	2.3	62	700
10	6.8	149	110	5	5.8	3.2	62	619
12	8.1	146	106	6	6.7	6.4	68	595
14	9.6	144	102	8	7.7	10.6	72	465
16	10.7	147	107	9	8.9	11.8	67	403
20	11.7	140	106	13	8.9	9.2	81	406
25	18.7	137	88	17	13.7	0.0	86	264

Sailing in waves is almost an art form to get the best out of a boat. Every effort put in by the crew is greatly rewarded by better boatspeed to the mark. When the puff hits and you are on the front of a wave have the mainsheet trimmer and the Spinnaker trimmer pump at the same time, This will help exeleration onto the wave, If the wind has increased in velocity the spinnaker will need to be eased to keep the boat on its feet. As the boats speed increases the spinnaker will need to be trimmed on to compensate for the apparent wind moving forward relative to the boat. Remember as the load decreases the boat needs to be pointed towards the wind to maintain the apparent wind speed.

The mainsheet trim is guided by the spinnaker trim. The mainsheet should never be eased to counter the boats heeling force without a corresponding ease in the spinnaker sheet. If this is done the mainsail will close up the slot between the mainsail and the spinnaker and create heeling force by stopping the wind from exiting the back of the spinnaker. Vang control is one of the most important mainsail controls downwind as this determines the amount of twist in the mainsail. Be careful not to have too much vang so that the mainsail is strapped and the roach is standing out to weather. The woolies off the back of the mainsail is a good guide for mainsail twist.

Another fundamental principal when sailing downwind is to never sail to a mark by just pointing a boat at it, Remember the principals of sailing the boat to its fastest VMG all the time, it is better to sail fast and gibe when necessary.

Spinnaker handling. Generally asymmetric spinnakers are a lot easier than symmetric spinnaker to handle when a few fundamental techniques are used.

## HOISTS AND DROPS

Asymmetric spinnaker are easiest to hoist and drop when contained by a crew member and shielded from the wind by the mainsail while hoisting and dropping.

On a smaller boat the spinnaker is launched and retrieved from the main hatch, the larger boats use a forward deck hatch.

To hoist:

1. set the prod
2. Pull the tack to the bow with the tack line.
3. Pull the clew out of the bag and hand sheet to the trimmer.
4. The bow person contains the spinnaker while the No 2 crewman hoists
5. As the spinnaker is almost to the top the bow person pulls the tack out and the trimmer trims on so that the three corners are extended simultaneously.
6. Throughout the maneuver the helmsperson is steering the boat flat so that the spinnaker is shielded from the wind by the mainsail. As the spinnaker reaches full hoist the boat is steered up to fill the spinnaker.

The best and easiest drops are weather drops. This is achieved when the weather sheet is used to put the spinnaker to weather as the helmsman turns the boat downwind to release the air from the spinnaker. Once the clew

Of the sail is held by the bow person the tack can be eased, the spinnaker halyard is maybe eased about a meter or two until the bottom of the spinnaker is contained in the hatch. Only then is the spinnaker halyard eased in a controlled manner as the spinnaker is fed into the hatch. Practice this maneuver as it is by far the easiest way of dropping asymmetric spinnaker and creates a lot of options for the crew at the bottom mark rounding. Gibe drops become very easy as the spinnaker is already on the weather side after the gibe ready to drop.

Gibing asymmetric spinnakers is easy and fun. The main principal in doing gibes is to always be ready. I always ensure the trimmer has the leeward sheet over their knee ready to gibe at a moments notice. Gibes can be done very quickly and are often best done when going the fastest at the end of a wave or puff as the apparent wind is least. The helmsman helms the boat though the gibe and points the boat up to 20 degrees higher to get the boat excellerating while the trimmer trims on hard almost straightening the foot of the sail out before easing very fast as the wind fills the sail. It is a good idea to hold up higher until the boatspeed is the same as on the other gibe. Most of the trouble in a gibe comes from the weather sheet being constrained and stops the spinnaker being sheeted on the new tack, have one of the crew be responsible for feeding the sheet around so it does not catch.

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