



# CAPRI 25

## TUNING GUIDE

The Capri 25 is a great club racer, with its' modest cost, easy sail handling and lively performance (PHRF rating 168 to 177). The boat features a light displacement (2785#), high performance underbody and wide unobstructed cockpit and decks. It is similar in performance to a J-24 or Kirby 25, but it is better suited to family duty since it has a large comfortable cockpit for weekending with family and friends. For racing, the cockpit is still more user friendly than the J-24 since the two level cockpit allows most of the crew to stay in the cockpit downwind. There are few masthead rig boats similar in performance to a Capri 25, so you will have difficulty finding an easier boat to tune and get going fast.

The sailplan for this boat has a large main (152 ft<sup>2</sup>), and a relatively large foretriangle which gives a 239 ft<sup>2</sup> #1 Genoa and a 170 ft<sup>2</sup> #3 Genoa. It is not as extremely large a foretriangle as C&C's and other late 70's designs, but it does allow a rather large 550 ft<sup>2</sup> spinnaker. The masthead rig is very simple to tune compared to swept spreader fractional rigs (ie J/24), and accelerates very well on short courses and that big kite almost always takes you on the rhumb line to the leeward mark. With this in mind, you should be able to be very competitive with a Capri 25 against J/24's, Kirby 25's, C&C 29's & 30's, as well as many of the larger cruising/club racing boats.

### RIG TUNING

Set the rake by setting the forestay length with the mast down. This boat tends to be very neutral helm, and needs a lot of help to really get it moving upwind. Our sails are designed for a forestay length of 31'10" pin to pin, which gives you about 8" of rake. This is very fast upwind, but will slow you down a touch downwind. With a Haarstick "**Lightning Bolt**" **Maxi Runner** Capri 25 spinnaker, even with the mast rake, your Capri will dominate your fleet downwind.

Get your rig centered in the boat with the upper shrouds using your spinnaker halyard as a measure. After getting the mast centered, get your mast straight. Make sure you leave your forward lowers loose and set the aft lowers up to get the middle of the mast in column with the mast tip. Then add enough aft lower tension to get the mast straight with no more than 1/2" of prebend. The **Powerleech** Main is cut for 0 to

1/2" of prebend, which will give enough ability to flatten the mainsail without sacrificing jib control. Having more prebend in the mast will give the boat poor headstay tension control in heavy air. The forward lowers should be tightened by hand, just enough to prevent the mast from inverting in choppy water. You can add a couple of turns if you know you will be sailing in 20 + knot to flatten the main. The rig tension should be kept relatively low to keep the slot open while sailing. The upper shrouds and aft lowers should be tight enough to keep the mast straight but allow the tip of the mast fall off 4-5" in 16+ knots of air. The beauty of this simple rig is that you don't have to alter it very much for different wind conditions like many swept spreader fractional rigs. This means you can 'change gears' during a race using simple sail controls, not fiddling with blocks and shroud tensions.

## BOAT PREP

Get the bottom smooth. Sanding with 400 grit sandpaper will give the finish needed to reduce resistance. The finish should be smooth enough that there are no exposed bumps larger than you can feel with your fingertips. Low stretch main and jib halyards are a must (5/16" spectra core recommended) to eliminate mid leech sag which kills windward performance. It is a good idea to put an exit slot about 8' up in the starboard side of the mast for the spinnaker halyard and a strong cam cleat. This will ensure instant spinnaker hoists and douses. To keep the large spinnaker under control, install twacker (or twinger) blocks to the toe rail track around the drip rail on the side deck (near back window).

## SAILS

### **Mains:**

Split-Weight One-Design Dacron -OR-  
Pentex Quilt-Cut Triradial 2+2 "**Powerleech**" Main

### **Genoas:**

155% "**5M\*\***" Quilt-Cut Triradial All Purpose #1 Pentex Genoa  
130% "**R2**" Quilt-Cut Triradial Heavy #2 Pentex Genoa  
110" "**KMH-4**" Quilt-Cut Triradial Pentex #3 Genoa with 1+2 battens

### **Spinnakers:**

180% "**Hybrid AP**" Quilt-Cut Triradial 3/4oz Nylon Spinnaker  
180% "**Lightning Bolt Maxi Runner**" Quilt-Cut Triradial AIRX Spinnaker

### **Auxiliary Sails:**

Maxi Blooper (where legal), Spinnaker Staysail

To start off with, I would make sure that I had the **Powerleech** Main, the **5M\*\*** 155%, the **KMH-4** 110% and the **Hybrid AP** Spinnaker. This minimum inventory will make you fast in most conditions. The **Lightning Bolt Maxi Runner** would be next on the to get list, followed by the **R2** 130%. The #1 Genoa and the Spinnaker sizes are easily adjusted to accommodate your local PHRF size restrictions. These sizes are specific for PHRF – LE ( Lake Erie). All these designs are available in CLUB Race Dacron and GRAND PRIX Kevlar, as well as Technora Carbon and PBO Zylon.

When I first got the boat, the sails that a previous owner had purchased did not make the boat easy to sail in any conditions. The mainsail has so much roach that the halyard had to be lowered to tack in anything under 10 knots of air. Above 10 knots, the main was backwinded so badly by the light to medium #1 that it wasn't balancing the lee helm, and the heavy #1 wasn't much better but it didn't have enough power to get the boat up to speed quickly. Obviously, standard racing sails that were being made by the large lofts weren't suited to a light, tender, and wide boat with a masthead rig. The boat needs sails that helped it accelerate quickly, without causing excessive backwinding of the mainsail. They have to be responsive to trim to allow them to work over a large wind range, but not so sensitive that a jib trimmer has to leave the rail to adjust sheet leads every time the wind changes. That is what we accomplished with our sail designs, sails that set fast and sail fast, without 'stretching them into shape' with halyard or sheet leads.

## LIGHT AIR

### 3-6 knots

Set the **5M\*\*** #1 genoa hand snug on the halyard with the sheet lead roughly in the middle of the inboard genoa track. Keep the sheet eased so that the leech is 6" off the spreader tip when accelerating and 1" off the tip when working at speed. The very flat leech will keep the slot open and allow the boat to accelerate. The backstay should be off and the **Powerleech** main should have enough halyard to take it to the black band but still with wrinkles in the luff. The outhaul should be on about half way (3-4" from max) and the sheet should be eased to fly all the telltales when accelerating and sheet in a bit so the top telltale is breaking when at speed to 'kick' the boat to windward and give some helm. Weight placement is very critical on the Capri in ANY conditions. The boat should heel ~5 degrees with the transom just touching the wake (weight around the companionway hatch).

These are the conditions that the Capri 25 is known to excel in. If you aren't fast at first, that means you are trying too hard. Don't move around and keep the boat powered up, don't pinch. The efficient underwater foils and the 'kick' from the leech of the main will make the boat go to windward and point very well even though it appears your bow is 5 degrees lower than other boats. Keep the speed up and the boat will climb over others with the keel and rudder working efficiently. Although the foils are very efficient on the Capri, this does not mean that they are always forgiving; they do

not like large angles of attack. On the west coast, some sailors have called the Capri the "Sideslip 25". That could be you if you try to pinch all of the time.

## MEDIUM AIR

### 7-12 knots

The **5M\*\*** #1 will still be up, and the sheet lead will still be in the middle of the inboard track unless you are experiencing wind sheer or veer. The best test is to luff up to windward while close hauled and make sure the inside tell break evenly; if the top breaks first move the car forward and vice versa. Genoa trim will be 6" off the spreader to accelerate and 1" off when at speed. Put just enough cunningham on the **Powerleech** main to pull out the luff wrinkles, a just snug vang, and have the outhaul 2-3" from max. This is also time to get the boat flat, 0 to 5 degrees heel is what you want, but if you can't manage that with weight, add up to 50% backstay to depower the sails.

If the water becomes choppy, you will want the genoa halyard at the full hoist mark on the halyard (enough to pull out the luff wrinkles) which will give a draft forward shape and keep the backstay off to keep the power in the headsail. In the chop, keep playing the mainsheet tension; ease to accelerate, harden to point when the speed is there. You should be able to see that your mainsheet tension will tighten the forestay when you head up, and the eases will reduce the forestay tension to help you power up. The best trim for the genoa is with the sheet leads in the middle position with the leech 4-6" from the spreader tip. This will give the boat the ability to accelerate through the bumps.

### 13-18 knots

If you have the maximum crew weight, it is possible to carry the **5M\*\*** #1 up to 18 knots, but that usually isn't the case. If you can't keep the boat under 10 degrees of heel after blading the main (full outhaul, tight cunningham) and full backstay, switch to a smaller headsail. The **R2** #2 is cut for more luff sag so if you change to the **R2** #2, remember to ease the backstay and power up the main a bit by easing the outhaul. If you end up overpowered with full backstay and a bladed main with the **R2** #2, switch down to the **KMH-4** #3.

This is a challenging wind range for the Capri, since the amount of weight on the rail, the strength of the puffs, and your timing for dumping the mainsheet or traveller makes headsail selection specific to you and your crew on that day. We generally sail with 560 to 760 lbs total crew, which tends to be light. We end up sailing with the traveller low at the upper wind range of a sail selection so we have to use the mainsheet to dump the main in gusts. It usually works best if the vang is on really tight so that you end up vang sheeting most of the time, using the traveller only to set how high you can trim the boom. A good investment to keep the boat on its' feet is one of the Spinlock PX cleats on your mainsheet. They release easily even when loaded, and since the cost of a single wipeout is very high in a competitive fleet, the money spent on a good cleat is

well worth it. In conjunction with quickly easing the main, steering into the puffs helps keep the boat in control. It is possible to sail most of a leg with the entry of the jib backwinding but the flat leech driving the boat forward with much reduced heel angle. These are techniques that require practice, and with more time in the boat, it will become second nature.

## **HEAVY AIR**

### **19+ knots**

Sail with the R2 #2 until it is too much power; then switch down to the KMH-4 #3. The KMH-4 #3 sheets to the second hole from the front of the forward inboard track most of the time. Move the sheet lead as you would a #1 or #2 if there is wind sheer or veer. A good way to judge how far a jib is trimmed in is to put some colored tape bands on the spreader at 3" and 6" from the spreader tip. This gives the trimmer a known distance when setting the distance of the genoa leech from the spreader. When trimming the KMH-4 #3, the accelerating mode has the leech 2" off the spreader tip, and when up to speed it is generally set at 3" in from the spreader tip.

The same steering into the puffs technique is used as mentioned above. The goal is to keep everybody hiking and keep the boat as flat as possible. You may end up with 15 or 20 degrees of heel now regardless of how you have depowered, and your goal is now to keep the boat on its' feet and keep the speed up. You should never get below 5 knots boatspeed and aim for at least hull speed of 5.8 knots. Keep the helm no more than 6 degrees from centerline and keep the weight outboard and centered between the jib winch and the first cabin window. To know how much helm you have (the Capri rarely has any heavy pull from the rudder), measure out 3, 6, 9 degrees of rudder angle on the side deck where the tiller extension ball rest is marker pen. Optimum is between 4 and 6 degrees for sailing upwind. If you get the boat balanced upwind, you should be able to stick to the big boats in the fleet uphill, and kill them on the downhill sleighride. When sailing with the KMH-4 #3, you can leave it up on short downwind legs or reaches since it gives little interference to the spinnaker. If you do notice any instability the jib causes on the spinnaker, take the jib down.

## **DOWNWIND**

In light drifter conditions, sail gybe angles to keep the spinnaker just full. Always concentrate on sailing as low as possible without losing all the pressure in the kite. If you have enough pressure to keep the kite flying, sail as deep as possible. Sailing deep angles is what the Capri does very well. Other Capri sailors still deny that deep is the boats' strong point of sail, but as long as there is enough pressure to keep the spinnaker drawing, 5 to 10 degrees by the lee is super fast.

### Tips to make it easier:

1. Ease the vang and let the top of the main twist off
2. Ease the spinnaker halyard 18" to let the spinnaker roll away from the main
3. Our chutes like the pole at the top of the car track
4. Heel the boat to windward with weight centered at the windows
5. Be ready to ease the pole forward if you think you may be rolled to windward

If you have a **Lightning Bolt Maxi Runner**, it will dampen the rolling in the 12-20 knot winds and the extra stability will increase your speed and comfort.

If your local PHRF organization or club allows bloopers (large, light, oddly shaped sail that measures as a jib) without penalty, it can be very worthwhile on legs over 3 miles in length. Our maxi-blooper (330 sq.ft) flies outside your mainsail and balances the boat at broad angles. If your boatspeed is nearing 4 knots, significant speed gains can be seen with the blooper as well as giving a comfortable ride without rolling. The blooper can be a very difficult sail to fly as the sheet alters its' angle of attack to the wind and the halyard sheets the sail in and out. The trick is to ease the sheet to get the sail to fill and use the halyard (which will have 10-15' eased from the masthead) to keep the bloopers foot from hitting the water. If you do much long course or long distance races, it would be a good sail to have.

## REACHING

Spinnaker reaches with the Capri can be exhilarating. The Hybrid AP spinnaker is the best choice for reaching, although under 12 knots the Lightning Bolt Maxi Runner does quite well especially if after the gybe mark the angle is broad which will give a worthwhile speed advantage. Keep the spinnaker pole relatively low on close reaches, the greater the wind, the lower the pole. This makes the spinnaker more like a large genoa, with a draft forward shape and an open leech. With practice, and a low pole setting (as low as 3.5' above the deck), reaching with the apparent wind on the tacking arms is a fast and fun experience. The common mistake, which leads to poor reaching performance, is the spinnaker trimmer choking the sheet. To maintain good rudder control, keep the weight outboard and between the jib winches and the aft bulkhead of the cabin trunk.

If the wind is too much for your crew to control the spinnaker, or the angle is too tight, the 5M\*\* #1 genoa will sheet to the toe rail near where the tweaker block is. You can use your spinnaker sheet to barberhaul the jib if you have the tweakers pulled in.

A spinnaker staysail can be of benefit when broad reaching. It helps keep airflow on the mainsail and keeps the boat driving if you accidentally lose the kite because of shifty or gusty winds. You can use the KMH-4 #3 jib to similar effect but it is more hassle to set and douse than a staysail. The staysail is a useful sail for long course or long distance races, but not a required for short course club races.

## TIPS TO REMEMBER - The Zen of Capri 25 Sailing

1. Keep it flat
2. Adjust weight to keep transom just touching the wake while going upwind
3. Weight forward downwind (until you plane...then move aft)
4. 5M\*\*      155% 6" off to accelerate      1" off while at speed  
R2          130% 5" off to accelerate      1" off while at speed  
KMH-4      110% 2" off to accelerate      3" inside while at speed  
Powerleech Main - centered with lots of sheet tension while at speed
5. Don't pinch
6. Sail deep with the spinnaker, by the lee is fast
7. Lower the pole on tight spinnaker reaches
8. Keep the bottom clean
9. Helmsperson should wear rubber boots or will get soakers downwind
10. Laugh at least once during a race! The Capri 25 makes club races and regattas tons of fun.

This tuning guide is meant to help you get up to speed quickly, but many of the techniques may be modified to match your driving style, or the preferences of the crew. Practice what is covered in the guide and we are sure that you will see drastic improvements in you Capri 25's performance.



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# CAPRI 25 UPWIND SAIL SETTINGS

## MAINSAIL CHART

WINDSPEED	3-6 kts true	7-12 kts true	13-18 kts true	19+ kts true
SAIL CONTROLS				
Backstay	Off	Off if flat, Up to 50% if heeling too much	30-100% depending on heel	100%
Outhaul	3-4" from max	2-3" from max	0-1" from max	ax
Boom Position	Centerline To 6" down	Centerline to 2" up	Centerline to 24" down, based on heel	6" down to bottom of traveller
Cunningham	NONE	Just a hint of wrinkles	Just a hint to no wrinkles, Depending on heel	No wrinkles
Vang	NONE	Just Snug	Tight	TIGHT
Heel Angle	5-10 degrees	0-5 degrees	0 best, No more than 15-18°	Flat, no more than 20-22°
Crew	Transom touching	Transom touching	Hike hard	HIKE
Weight Distribution	Around Companionway	Side windows	Just fwd of Companionway	Stack in from Jib Winch forward

## HEADSAIL CHART

WINDSPEED	3-6 kts true	7-12 kts true	13-18 kts true	19+ kts true
SAIL CONTROLS				
Halyard	Hand snug, Large wrinkles	Small wrinkles for flat water, No wrinkles for chop	Full hoist, No wrinkles	No wrinkles
Sheeting (Dist. Off Spreader)	6" to accelerate, 1" to point	6" to accelerate, 1" to point, 4-6" if choppy	#1 1-4" #2 1-5" #3 3" in to 2" out	#2 1-5" #3 3" in to 2" out
Headsail Choice	5M** 155% #1	5M** 155% #1 R2 130% #2	5M** 155% #1 R2 130% #2 KMH-4 110% #3	KMH-4 110% #3





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