



## SAILS

Racing  
Cruising  
One-Design  
Mega Yacht  
Design Info.  
Tuning

## DOYLE One-Design - Rhodes 19 - Tuning Guide

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### Rhodes 19 Tuning

Our sails have won the **Rhodes 19 National Championship** for the **seventeenth time in twenty-two years!** We have continually upgraded our designs and cloth selection to make our sails even better year after year!

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### SETTING UP YOUR RHODES 19 FOR DOYLE/CRESSY SAILS

#### BEFORE STEPPING THE MAST:

1. Clean and lubricate turn-buckles.
2. Check your mast step location fore and aft with a tape measure; run the tape from the intersection of the center of the transom and the deck to the aft edge of the mast step. This dimension should be 12 feet 6 1/2 inches.

#### TUNING YOUR MAST:

1. Center mast with upper shrouds, check it by measuring to port and starboard chainplate with a tape measure attached to the jib halyard.
2. Tension uppers and lowers for existing wind conditions. We use a Loos Tension Gauge, Model A, for consistent settings.
3. Tension uppers to 150 lbs. Tension lowers equally to 80 lbs. Sighting up aft face of the mast to check for straightness. It is essential that the mast is straight.

#### SHROUD TENSION:

WIND	0-4	4-8	9-14	15+
Lowers	0	0	80	80
Uppers	110	110	150	200

An increase in overall rig tension results in greater headstay tension.

### TRIMMING THE SAILS

It is important to mark all your shrouds, sheets, tracks, outhaul, etc. Keep records of your set-ups, the conditions you sail in and how your speed is. It is essential to be able to duplicate settings from race to race and to know exactly how the boat was set up when you were going fast. Check to make sure the soft end of the battens are inserted first.

#### MAINSAIL:

1. Trim the mainsheet hard enough to make the top batten parallel to the boom. Once the boat has accelerated and you want to point higher, trim harder and cock the top batten slightly to weather. If the mainsheet is too tight (evidenced by top batten hooking way to weather) you will stall the main and slow down.
2. Set the traveler car up to the inner edge of the windward seat so that the boom is on or just below center line. As the breeze increases, gradually drop the traveler to de-power the main.
3. Use the outhaul for balance. Adjusting the outhaul changes the depth of the lower 1/3 of the main which affects helm, speed and pointing.

**KNOTS OUTHAUL TENSION**

0 - 5 - eased 1 1/2"  
 6 - 10 - eased 1"  
 11 - 14 - eased 1/2"  
 15 + - maximum

4. The cunningham is used to position draft in the main. Your goal should be to keep the maximum draft point 50% back in the sail. We use no cunningham up to 10 knots, enough to remove most of the wrinkles 11 - 15 knots and progressively tighter in higher winds to remove all wrinkles.

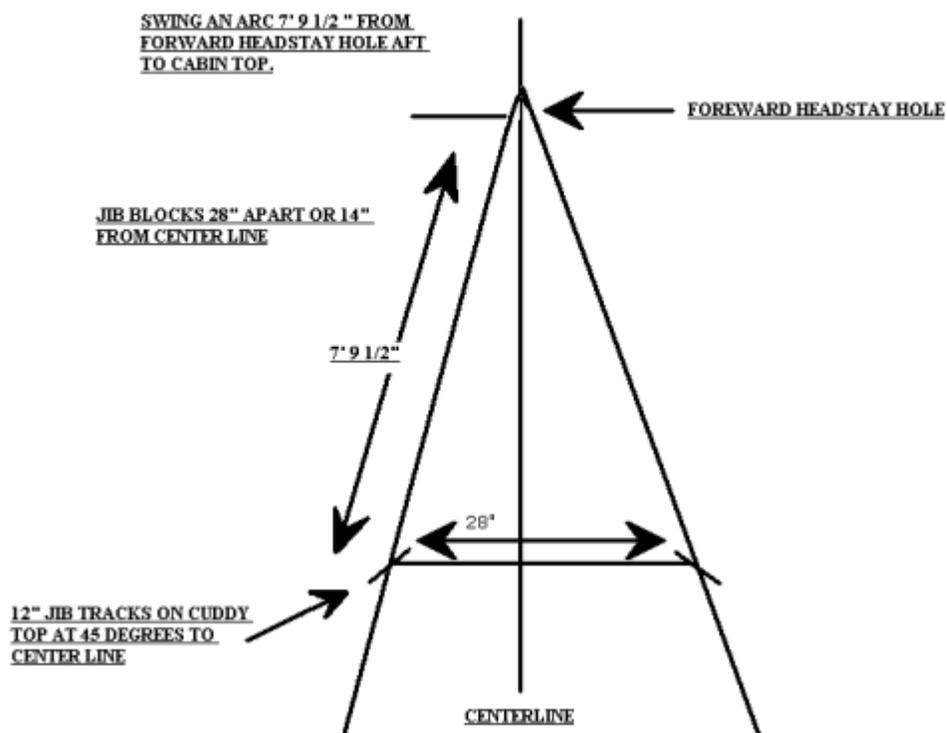
5. Applying the vang. Upwind the vang is loose in most conditions, off the wind, however, we apply the vang just enough to make the top batten parallel to the boom. Be careful! Rhodes 19 booms are not that strong, so in a breeze, watch how much the boom is bending.

**JIB:**

1. Luff tension is one of the most critical parts of the boat. In 0 - 10 we sail with medium wrinkles in the luff, 11 + set luff progressively smoother. If you feel you are not getting enough power in chop, try easing luff tension.

2. Jib leads. In every up-wind breeze condition, the jib lead should be positioned so that the jib luff breaks evenly when you luff up slowly into the wind. Moving the lead forward will make the jib break quicker down low while moving the lead aft makes the luff break quicker up top.

3. Telltales. Keep both windward and leeward yarns streaming aft.

**R-19 JIB LEADS****HEADSTAY SAG - LIGHT AIR:**

To increase pointing and upwind speed in light air you must carry a loose headstay. With mainsheet tension and backstay tension you can adjust the amount of headstay sag. With the backstay loose the headstay should be able to make a 12" circle.

**BACKSTAY:**

1. Pulling on the backstay has two effects. First, as the mast bends, the upper half of the main flattens and the leech opens up - which relieve helm and heeling. Second, it makes the forestay tighter which flattens the entry of the jib and eases its leech, thus increasing pointed ability and reducing heeling. Whenever adjusting the backstay, you should adjust the mainsheet.

**WIND STRENGTH**

<b>BACKSTAY</b>	0 - 6	7 -10	11-15	16-18	19+
<b>TENSION</b>	none	1/4	1/2	3/4	max

**HEAVY AIR TECHNIQUES**

WIND: 18 - Up Everyone hiking hard.

Sheet mainsheet and jib hard. When the breeze gets to be much over 20, the traveler should be dropped to leeward full time and start playing the mainsheet. Outhaul should be maxed out. The cunningham should also be on hard. Backstay between 1/2 and maximum playing it in the waves and puffs. If you have some chop, it is all right to have some wrinkles in the luff of the jib. However, you'll probably need to tighten the jib luff and move jib leads aft. If you get to the point where you have heavy weather helm and you are doing all of the above, move the jib lead even further aft and ease the jib sheet to put some twist in the upper third of the sail and apply more backstay. Objective in 18 - up: Keep boat flat and punching through waves. Feather the boat through bad waves.

**DOWNWIND GUIDELINES**

1. Set the vang so the top batten is parallel to the boom.
2. Ease cunningham, outhaul and release backstay.
3. Raise spinnaker pole until spinnaker clews are level.
4. Trim the spinnaker so there is 6 - 12" of curl in the luff.
5. Keep the pole perpendicular to the apparent wind.
6. While reaching, keep your speed up by heading higher in the light spots or choppy water. Head off only in the puffs and don't sail unnecessarily high early in the leg.
7. On the runs, jibe in the windshifts to stay on the headed tack.

**OTHER HELPFUL HINTS**

1. When in doubt, let it out.
2. Shim mast tightly where it goes through the deck.
3. Keep keel, rudder and bottom in the best shape possible.
4. Get a good start.
5. Do not overstand marks or sail in another boats bad air.

**NOTE:** These are guidelines, not gospel. What is fast for your boat may vary slightly from our charts. Remember this is only a game we are playing. Have fun and good sailing!

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