

Wind-Specific Polar Targets & Modes RS21

Unlike heavier traditional keelboats, the RS21 has two completely different downwind profiles defined by its polar performance:

Wind Strength [2]	Target True Wind Angle (TWA)	Strategy & Tactical Mode
<u>Light Air</u> (< 9 knots)	<u>135° – 142° TWA</u>	<u>Heeling & Soaking.</u> Sail higher angles to build apparent wind, then gently look to "soak" down into the lulls. Avoid chasing non-existent planes.
Medium Air (10 – 14 knots)	140° – 150° TWA	The Transition Region. Drive deep to maximize target VMG numbers. Keep the boat tracking straight; heading up too high creates drag rather than productive speed.
Heavy Air / Breeze On (15+ knots)	110° – 130° TWA (Initial) 150°+ TWA (On Plane)	Planing Mode. Head up sharply to catch a wave and trigger a plane, then immediately use your speed to drive deep ("low and fast") downwind.



Key RS21 Downwind Techniques to Hit Your Polars

1. Managing Sail Crossovers (The Jib Dilemma)

In light air conditions, dropping the jib entirely opens up the slot, exposing cleaner air to the asymmetrical spinnaker. According to the [RS Sailing RS21 Tuning Guide](#), finding this exact crossover point helps the boat achieve much deeper, more efficient soaking angles downwind. As the wind builds, keep the jib up to balance the airflow between the two sails. [\[1, 2\]](#)

2. Dynamic Weight Placement

Your crew's physical positioning acts as a secondary rudder mechanism:

- **Light Air:** Move crew weight shoulder-to-shoulder, positioned well forward to lift the wide transom out of the water and reduce drag. Lean slightly to leeward to help the boat pivot naturally.
- **Planing Conditions:** As soon as the boat catches a puff and starts to plane, the entire crew must shift their weight forcefully aft to keep the bow from plowing into the wave ahead. [\[1, 4\]](#)

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3. Power Control and Trimming

Keep a hand on the main vang at all times when sailing downwind in heavy air. If a sudden gust threatens to cause a wipe-out or broach, blowing the vang releases pressure instantly from the top of the mainsail, letting the helmsman regain control. Reviewers at [48° North Magazine](#) noted during field testing that the RS21 pops onto a

plane easily into the double digits. Maintain a highly active loop of communication between the helmsman and the spinnaker trimmer: the helmsman bears away as the sheet loads up, and heads up to rebuild power the moment the pressure drops. [[1](#), [2](#), [3](#)]