



NORTH U

Two parallel blue diagonal lines intersecting the title text.

The North U Upwind Sail Trim Simulator



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The North U Sail Trim Simulator allows you to adjust sail trim and see performance changes for various wind speeds. You can adjust:

- Sail Controls for Mainsail and Jib as well as helm.
- Wind Speed (and Sea State)
- Viewing Position

On opening

1. Familiarize yourself with the Trim Simulator Sail Controls:

- Test the trim controls for Main (on opening default is mainsail controls)
- Test the trim controls for Jib
- Adjust the Helm
- Note changes in sail shape - both visually and in instrument boxes
- Note changes in performance - Speed, VMG, Heel, etc

2. Next, test interface controls

- Change the wind speed (from 6 to 16 knots TWS)
- Change sea state (Normal, Smooth, Wavy)
- Change views
 - There are 4 default views when on mainsail trim
 - There are 4 default views when on jib trim
 - From there you can manually change views: finger drag/ 2 finger drag. You can control position (rotation) and zoom

After Initial Familiarization

Trim Sails

3. Set the wind speed to 8 or 10 or... whatever you like and normal seas

Optimize trim (manually or with Magic Wand)

One Key Lesson: This is not easy: jib, main, helm - sail trim is complex

4. Increase or decrease wind - and retrim

- Initial response in a puff: traveler down to control heel (and increase speed)
- Then refine: traveler up and head up; sheets, backstay?Leads?

5. Change wind again and again: More, less, and retrim.

6. Change Sea State:

Flat: Flatter, less twisted, feather up. Chop: Deeper, more twisted, foot off.

(The Magic Wand is not yet good at this.)



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QUIZ

After your initial familiarization use the simulator for training:

Change conditions and ask:

How can we improve performance?

What to change first - which are our primary controls with the biggest impact? Which are Secondary? Tertiary?

NOTE

The Trim Simulator is driven by the North Sails Design Suite and VPPs. These are interpolated to workable file size and solution speed. While very accurate, the simulator fails to capture the inherent instability of actual sailing conditions. These trim results reflect perfectly steady conditions (and a 100% attentive driver!).

Simulator Development Notes

We are working to improve performance. Among the issues:

- The optimums seem quite narrow, with very little twist.
- Changes in trim by sea state seem very nuanced. In the real world they are greater.
- Backstay is binary (all on or all off). It is more incremental in real world sailing
- Some of the trim numbers are counter-intuitive
- Positive and negative
- Less is more (higher # = longer backstay, not tighter backstay)
- Traveler: click port to move starboard
- More....

Feedback Please *

Please send your comments suggestions and ideas as well as complaints to bill.gladstone@northsails.com

Thanks,
Bill Gladstone



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North U Sail Trim Simulator

95.1%	6.5kt	6.7kt
VMG	Speed	Target
Performance Data		
13.6°	3.2°	2.4°
Heel	Rudder	Leeway
36%	Main Middle	10.9° >
Draft	Camber	Twist
	●●●●	<< Click dots for lower, middle, upper shape or twist of active sail

Magic Wand

Default Views
 4 for Main, 4 for Jib
 or drag to rotate/ zoom

Wind Speed
 6 - 16 knots TWS

Sea State
 Normal, Smooth, Wavy

Controls
 Click + or -

Settings
 (More to Come)

Helm
 Head Up / Fall Off

12.0kt TWS 47.0° TWA

Jib Main

Toggle Mainsail & Jib Controls