Prepare To Win

QUANTUM SAILS™
TO THE NEXT CHALLENGE.

YOU DON’T WIN BY DOING ONE BIG THING RIGHT.

YOU WIN BY DOING 100 LITTLE THINGS RIGHT.

Starts With You

- How much money can you budget
- What type of sailing
- What boat
- Condition
- Sailing goals
- Your team
- Process for preparation
- Planning to race
- Check lists

The Puzzle
All the Pieces
For a Complete Boat

Under the Water

- Fair-Smooth-Hard-Bottom
- Keel-Fair-Symmetrical-Smooth
- Rudder-Fair-Symmetrical-Smooth
- Keel-Square to deck-Centerline
- Rudder-Inline with keel centerline
- Edges fine-1/8” sharp square
- Over ¼” 45 degree
- Rudder-close to hull
- Keel-90 degrees to hull
- Flat sharp bottoms to keel/rudder

Above the Water (System Sailing)

/ SYSTEM SAILING

- Numerical and systematic approach that help you look at your boat differently and give you more confidence to face whatever challenge comes your way.
- Emphasis on collecting data and creating repeatable settings and processes
- Enhancing your experience on the water no matter what type of sailing you enjoy

A MEASURABLE PROCESS THAT WILL MAKE YOUR BOAT FASTER

/ FIVE BUILDING BLOCKS

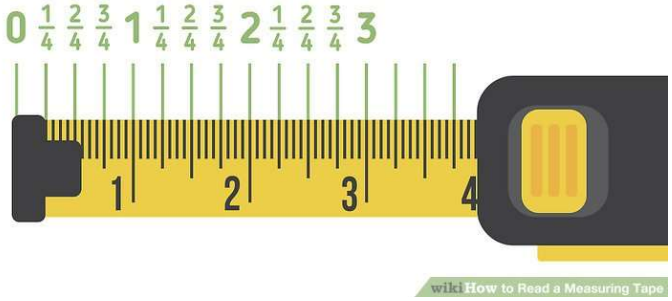
- MARK
- MEASURE
- RECORD
- EVALUATE
- COMMUNICATE

/ MARK

- HALYARDS
- SHEETS
- INHAUL-OUTHAUL-CUNNINGHAM
- TACK LINE-DOWN HAUL
- BACKSTAY
- VANG
- WHEEL
- TRACK / TRAVELER
- SAILS / BAG
- SAFETY EQUIPMENT
- TOOLS / SPARE PARTS
- SAILING GEAR

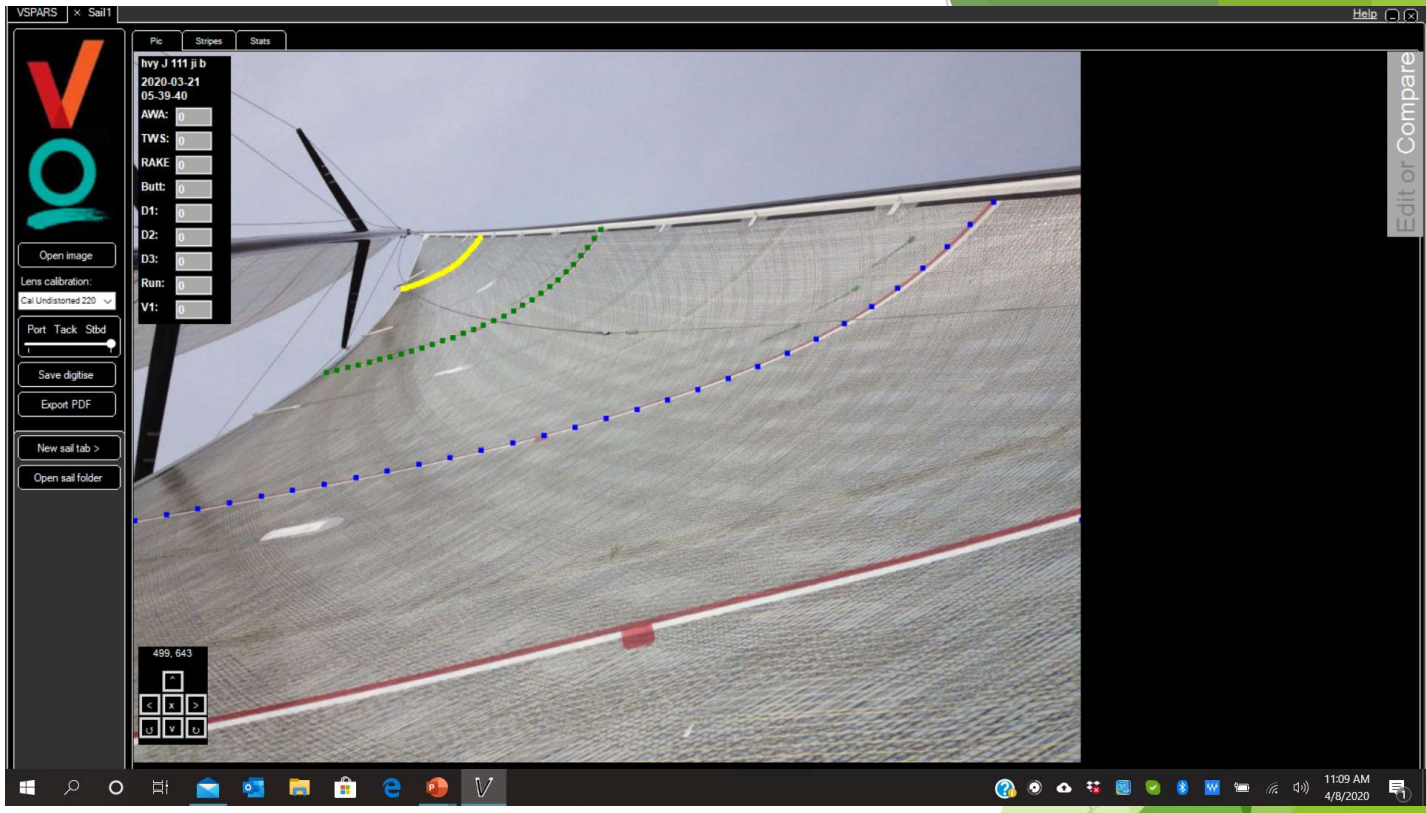
/ MEASURE

1. CAR LOCATION FOR JIB/GENOA
2. ALL HALYARD SETTINGS
3. SHEETS
4. BACK STAY/ RUNNING BACK
5. SAILS FROM PHOTO
6. HEEL
7. TRIM
8. HELM (tape J 111 3-4)
9. TURNBUCKELS
10. SHROUD TENSION
11. *COMPETITORS*



RECORD

- Sail settings
- Rig settings
- Sail shape (phone)
- Boat’s performance
- Wind & weather
- Targets
- Results
- Wet Notes
- Phone



EVALUATE

- Sail shape performance
- Overall performance
- Wind / weather / sea state
- Rig tune
- Boat handling
- Crew
- Goals

0 –8 Knots	2.100m	- 3 turns	- 3 turns	- 2 turns
8 – 12 Knots	**Base Setting** (adjust shrouds by counting the number of turns off and on)			
12 – 17 Knots	2.085m	+ 2 turns	+ 3 turns	+ 2 turns
17 – 25 Knots	2.075m	+ 2 turns	+ 3 turns	+ 2 ½ turns

The Headstay measurement is measured from the top of the "black band" at the gooseneck using the genoa halyard. The halyard is the swung forward parallel to the forestay and measured down to the intersection of the shear and the stem at the tack bail. (see previous photo)

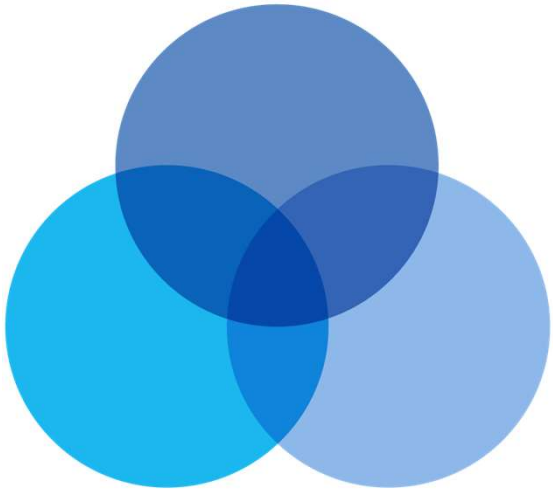
Rig Tuning Adjustment Chart for Rod Loos Gauge				
True Wind Speed	Headstay Length	Upper Shrouds V^{1}'s (RT 11 guage)	Lower Shrouds D^{1}'s (RT 10 guage)	Diagonals D^{2}'s
0 –8 Knots	2.100m	35 units	20 units	5 units
8 – 12 Knots	2.100m	42 units	35 units	10 units
12 – 17 Knots	2.085m	48 units	40 units	15 units
17 – 25 Knots	2.075m	50 units	45 units	20 units

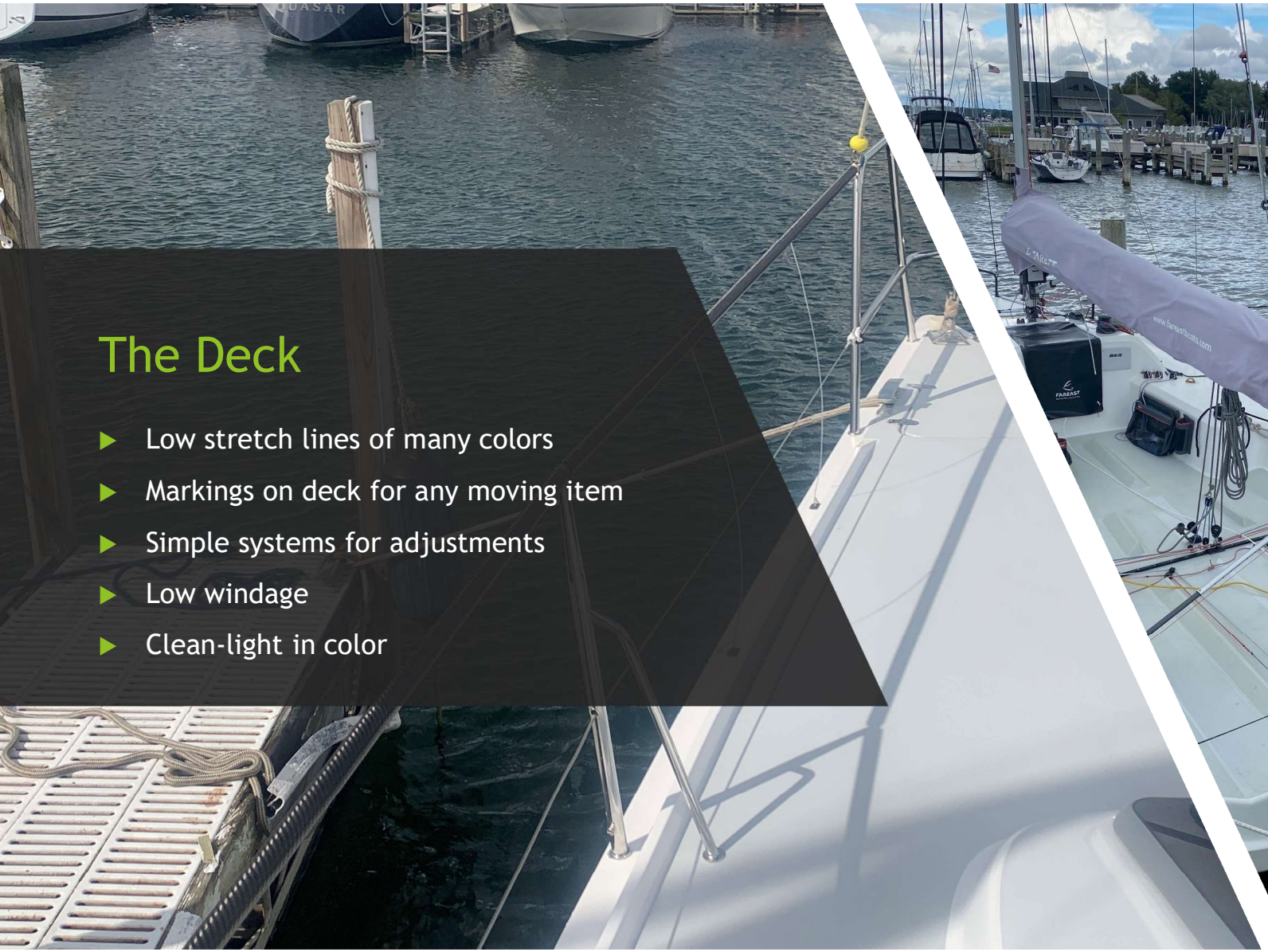
This tuning guide is just that; a guide to helping you achieve appropriate tune & trim. It is not intended as an absolute but a mere reference tool. Boats will often vary is basic dimensions. If you are having difficulty making these settings work for your boat experiment with modified settings on call Quantum for assistance.

/ COMMUNICATION

- SPEED
- INFORMATION
- MECHANICAL

- Google Docs
  - Before
  - During
  - After

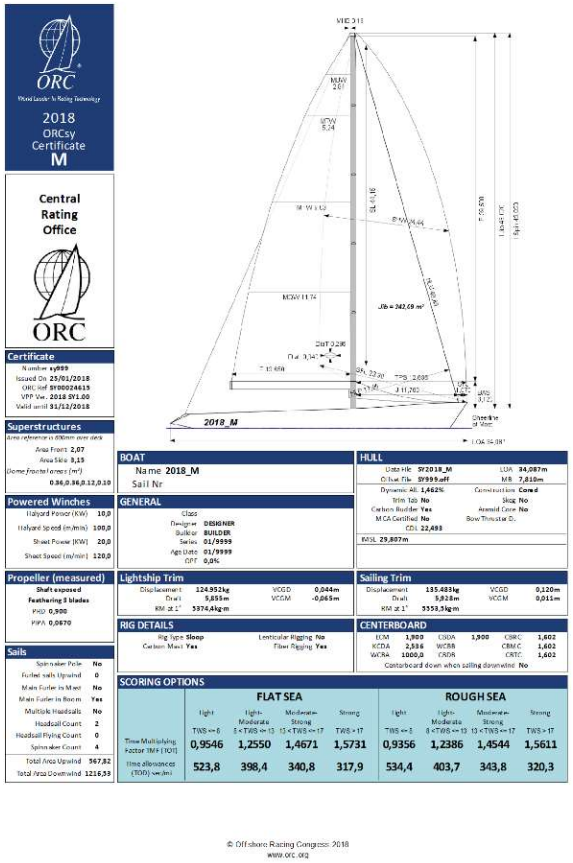




The Deck

- Low stretch lines of many colors
- Markings on deck for any moving item
- Simple systems for adjustments
- Low windage
- Clean-light in color

Weight Below (Tape at Bow)



ORC
World Leader in Rating Technology
2018
ORCsy
Certificate
M

Central Rating Office
ORC

Certificate
Number sy999
Issued On 25/01/2018
ORC ref SY00024615
VPP Ver. 2018 SY1.00
Valid until 31/12/2018

Superstructures
Area reference is 600mm over deck
Area Front 2,07
Area Side 3,15
Dome Frontal areas (m²) 0.36,0.36,0.12,0.10

Powered Winches
Halyard Power (KW) 10,0
Halyard Speed (m/min) 100,0
Sheet Power (KW) 20,0
Sheet Speed (m/min) 120,0

Propeller (measured)
Shaft exposed
Feathering 3 blades
PKD 0,900
PIPA 0,0870

Sails
Spinnaker Pole No
Furled sails Upwind 0
Main Furler in Mast No
Main Furler in Boom Yes
Multiple Headsails No
Headsail Count 2
Headsail Flying Count 0
Spinnaker Count 4
Total Area Upwind 567,82
Total Area Downwind 1216,33

BOAT
Name 2018_M
Sail Nr

GENERAL
Class
Designer DESIGNER
Builder BUILDER
Series 01/9999
Age Date 01/9999
DPF 0,0%

HULL
Data File SY2018_M — LOA 34,087m
Offset File SY999.off — MB 7,810m
Dynamic All. 1,462% — Construction Cored
Trim Tab No — Skeg No
Carbon Builder Yes — Aramid Core No
MCA Certified No — Bow Thruster D.
CEL 22,488
WSL 29,807m

Lightship Trim
Displacement 124.952kg — VCGD 0,044m
Draft 5,855m — VCGM -0,065m
RM at 1° 5974,4kg·m

Sailing Trim
Displacement 135.483kg — VCGD 0,120m
Draft 5,838m — VCGM 0,011m
RM at 1° 5559,5kg·m

RIG DETAILS
Rig type Sloop — Lenticular Rigging No
Carbon Mast Yes — Fiber Rigging Yes

CENTERBOARD
ECM 1,900 — CBDA 1,900 — CBRC 1,602
KCDA 2,836 — WCBA — CBMC 1,602
WCBA 1000,0 — CKDA — CBTC 1,602
Centerboard down when sailing downwind No

SCORING OPTIONS

	FLAT SEA				ROUGH SEA			
	Light TWS <= 8	Light-Moderate 8 < TWS <= 13	Moderate-Strong 13 < TWS <= 17	Strong TWS > 17	Light TWS <= 8	Light-Moderate 8 < TWS <= 13	Moderate-Strong 13 < TWS <= 17	Strong TWS > 17
Time Multiplying Factor TMF [TOT]	0,9546	1,2550	1,4671	1,5731	0,9356	1,2386	1,4544	1,5611
Time allowances (TOD) sec/mi	523,8	398,4	340,8	317,9	534,4	403,7	343,8	320,3

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www.orc.org

1. If exceeds then sail the next lower TWA
2. If under then sail the next high TWA exceeds the the Target

RE Crew Weight

I looked at what 4 mm of sinkage which equals 130 kg (286 lb) of extra Displacement.

1. Upwind – In light air the boat would be approx. 1 SPM slower and then in 12 knots TWS and up the Boatspeed affect is in beginning of race.

1. Reach – If the extra person hikes there would be no reduction in performance. If they do not hike it would be a loss of 1 SPM.

1. Offwind – In 8 TWS the loss would be 3 SPM, in 12 TWS 1 SPM and then .5 SPM for higher windspeeds.

Regards,

Greg

From: steve s <smsellinger21@gmail.com>

The Rig

Tuning Guide Symmetry-Rake-Tension

- Rig tension for different wind speeds
- Sail settings for different wind speeds
- Sail choice for different wind speeds

Rig Tuning Adjustment Chart for Counting Turns

Speed	Headstay Length	Upper Shrouds V1's	Lower Shrouds D1's	Diagona D2's
	2.100m	- 3 turns	- 3 turns	- 2 turn
ts	Base Setting (adjust shrouds by counting the number of turns off and on)			
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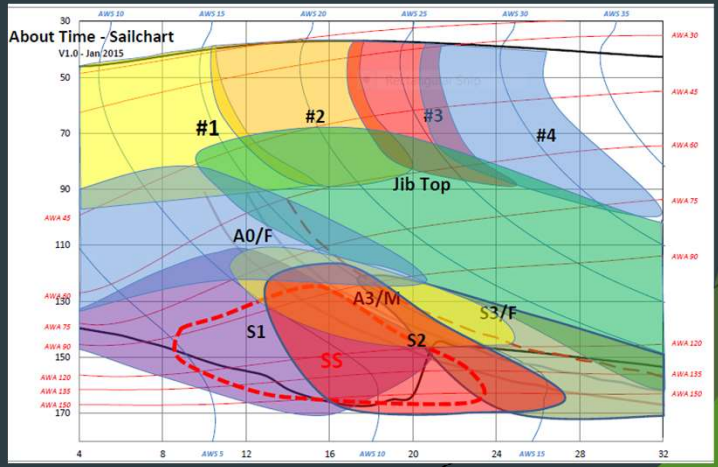
QUANTUM SAIL DESIGN GROUP



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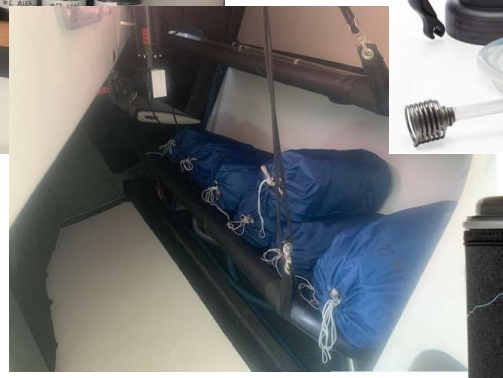



check list


MOUNTAIN HOUSE
SAVOR THE ADVENTURE
BISCUITS AND GRAVY


100 Counts
5 Gallon
Extra Thick


HELLY HANSEN
20L


JETBOIL
JOULE

Your Sailing Gear

- Offshore top and bottom
- Light leg cover
- Fleece layer
- Down jacket
- Dry Bag-Sailing gear
- Shoes
- Socks-dry-wet
- Gloves-day-cold
- Hat-day-night
- Life jacket/Harness AIS
- Sunscreen
- Sunglasses
- Noise Canceling Headphones
- Dry Bag-phone-wallet-personal cleaning

Electronics

- True Values-Symmetrical-Starting-COG-GPS-Yellow Brick-Target/Polar

VMG vs VMC

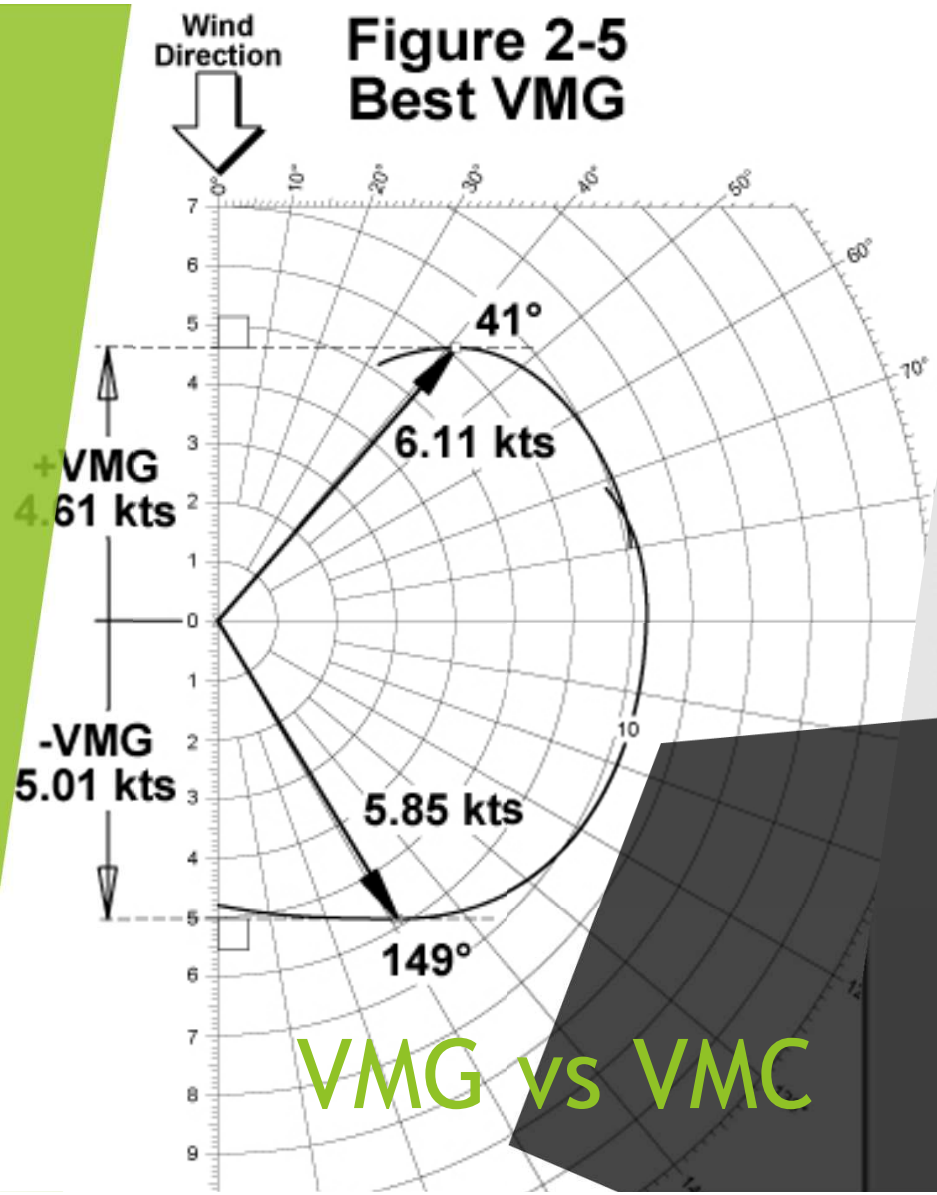
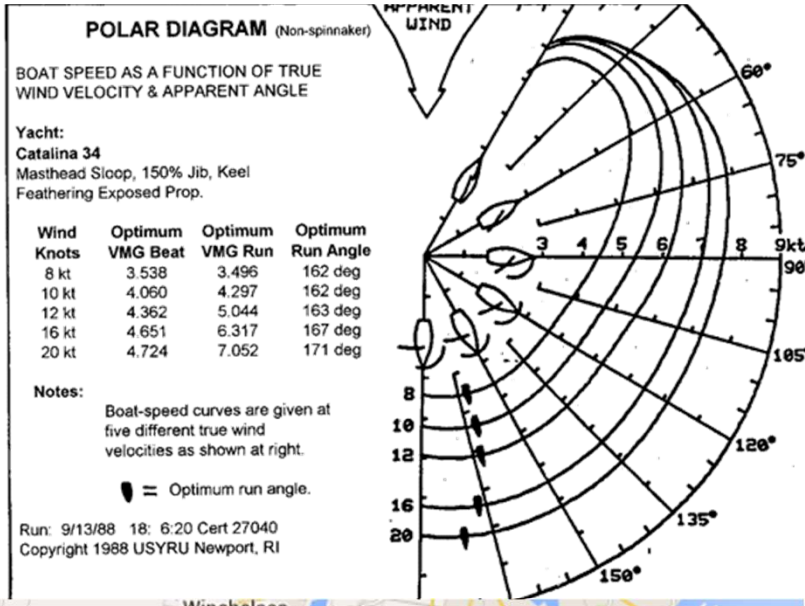


Figure 3-6
World's Most Useful Instrument

Vt	UP	DOWN	Bt
4	3.27	2.81	138
6	4.82	4.37	138
8	5.76	5.35	14
10	6.11	5.85	1
12	6.28	6.07	1
16	6.45	6.89	1
20	6.59	7.62	

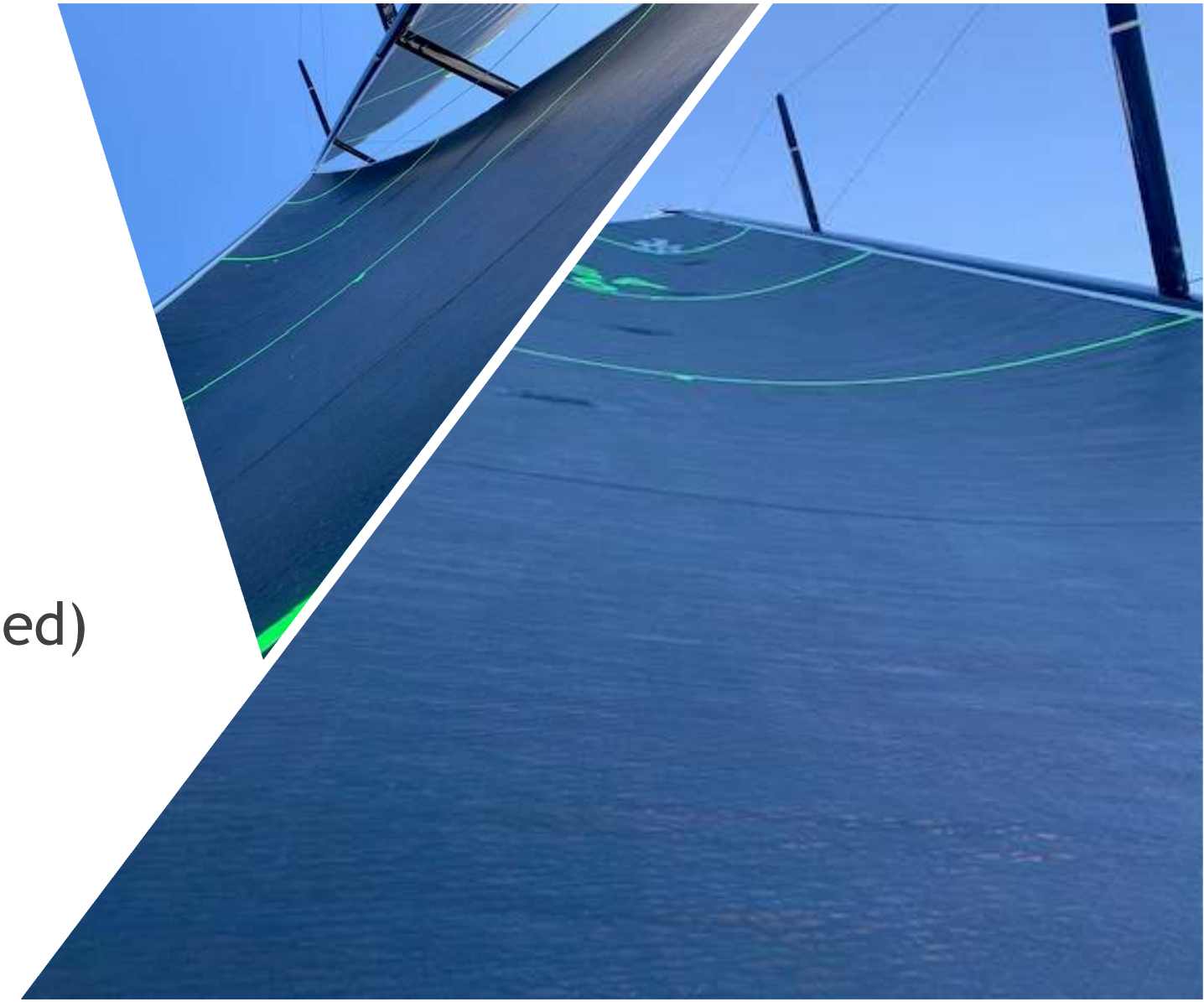
Understand the Numbers

- Sailing VMG or Targets when not aiming at mark
- Sailing VMC when sailing straight to mark
- Change 2-3% faster boat speed and angle
- Polar percentage = constant
- Mode sailing
  - Faster lower
  - Higher slower
  - Faster higher
  - Slower lower



Sails

- Photo
- Measure
- Wind Speed
- Record (hours used)
- List (cross over)
- Primary




V5PARS
Sail1
Sail2
Pic
Stripes
Stats
M1-TWS15 (7)
2014-06-21
08-07-00
AWA:
TWS:
RAKE
Butt:
D1:
D2:
D3:
Ram:
V1:
Open image
Lens calibration:
Port Tack Sbd
Save digitse
Export PDF
New sail tab >
Open sail folder
2277, 2550

MIRABAUD YACHT RACING IMAGE 2013 © Jürg Kaufmann

Specialty Sails

- Code 0
- A0 (tweener 65% mid girth)
- Spinnaker Staysail
- Genoa Staysail
- Storm Jib

Free Staysails

- Faster Boats 90 APW
- Spinnaker Staysail on Centerline
- IS Staysail To Windward 5 degrees
- Faster wind back side of Main
- Increase AWS

Enter the Race

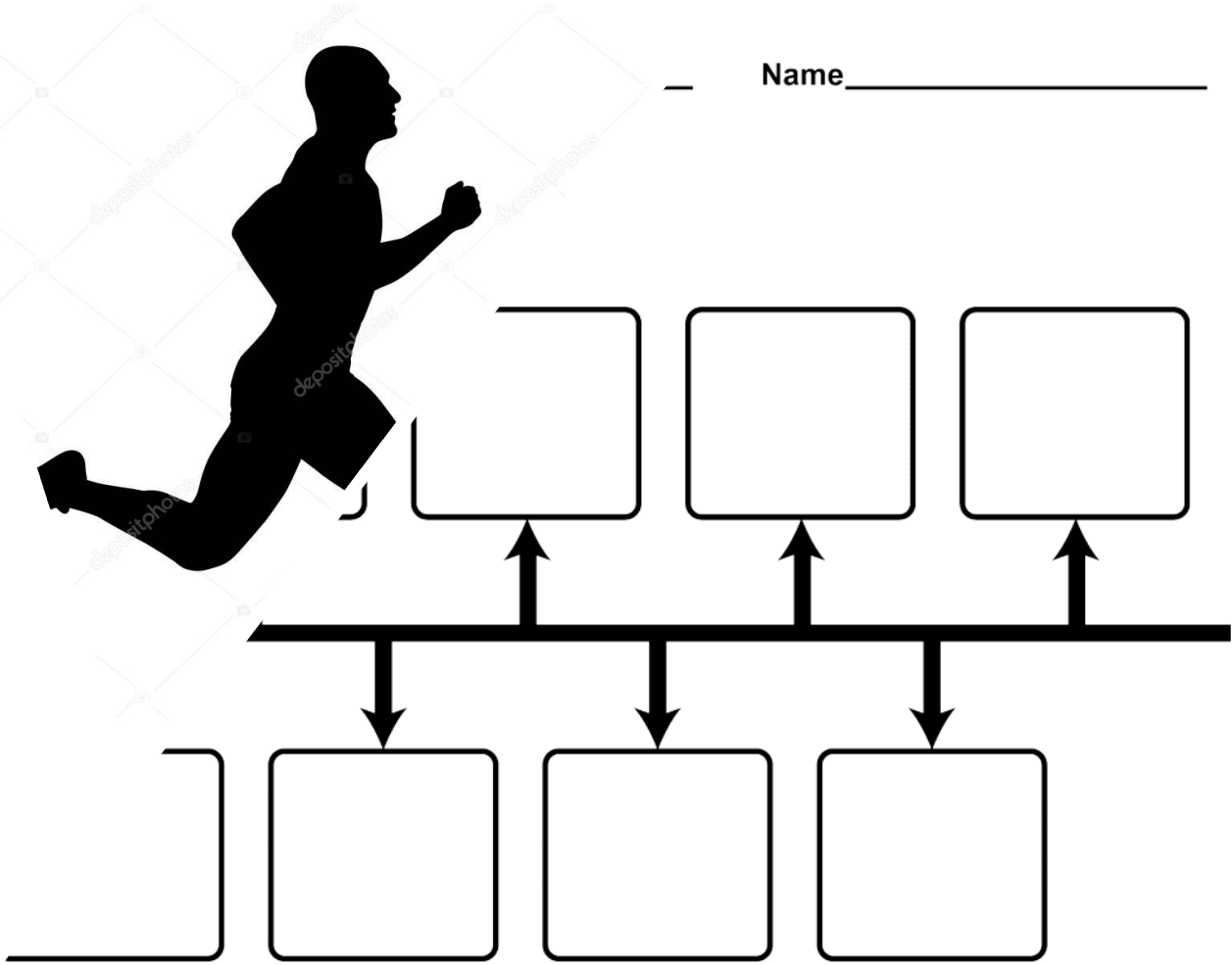
20 BAYVIEW 23
MACKINAC RACE

20 22 BAYVIEW ONE DESIGN

BAYVIEW ONE DESIGN DETROIT

Time-Line Your Race

- Enter the Race
- Check List #1
- Decide on the Crew
- Understand all Requirements
- Plan Backwards Race-Now
- Logistics at Event
- Buy Necessary Equipment Now

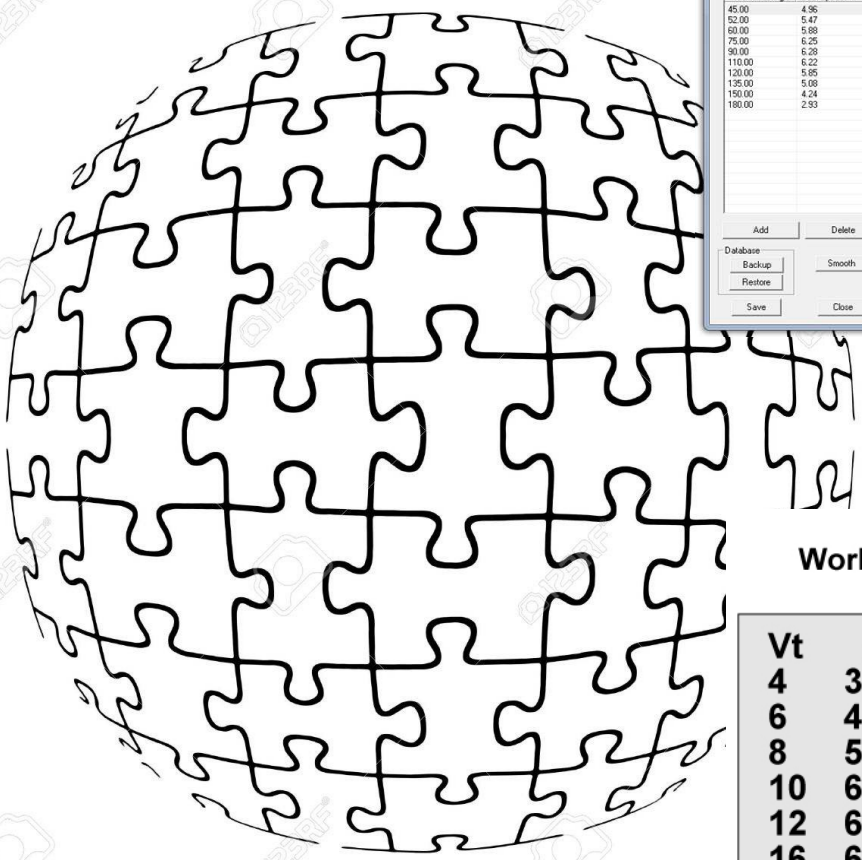


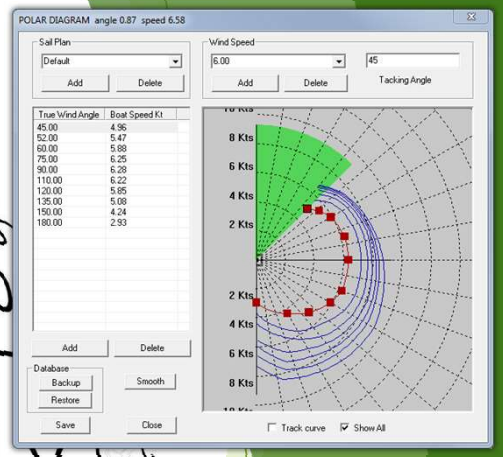
Manual/Check List

- Instruments (pages-options)
- Sails (settings-cross over)
- Rig (tunning)
- Interior (type race-weather)
- Safety (location-process)
- Weather (routes-online)
- Race (NOR-Sailing Instructions)
- Buoy VMG (Pre-race-Post-race)
- Distance VMC (Pre-race-Post-race)

Your Crew

- Attitude
- Ability
- Talent
- Experience
- Fun (do you like them?)
- Chemistry-not a switch
- TP 52 Pros vs Friends J 120





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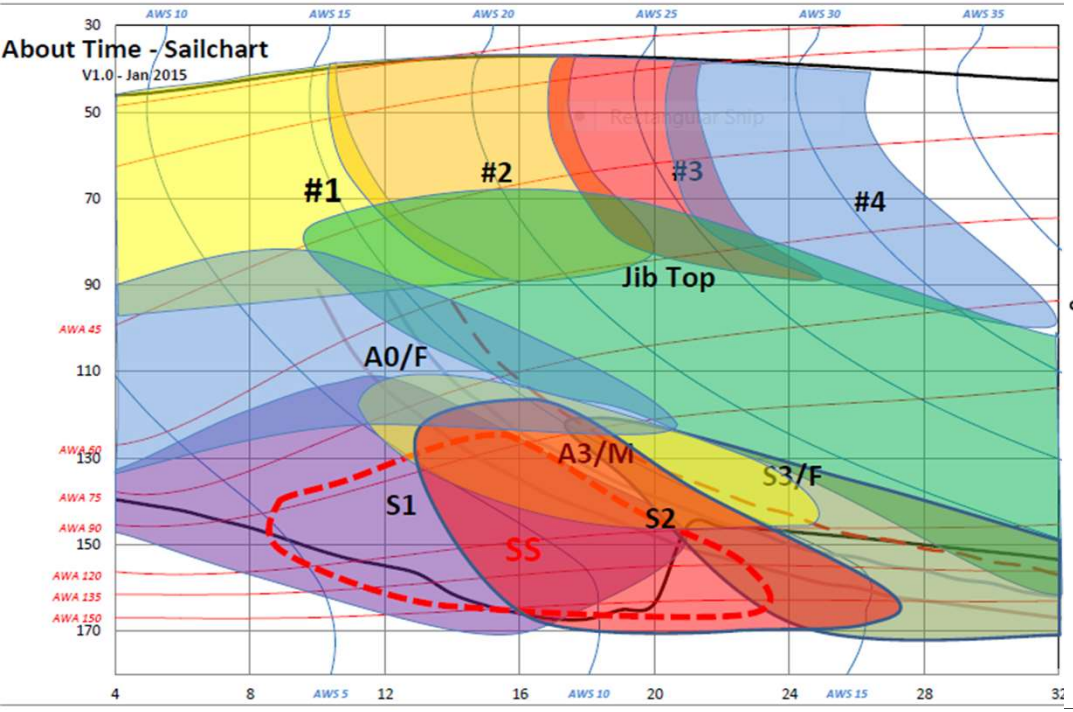
12	6.28	6.07	162
16	6.45	6.89	171
20	6.59	7.62	172
28	6.73	8.96	173

The Pieces Fit Practice

- VMG-Buoy
  - Boat Handling
  - Speed
  - Starting
  - Tactics
- VMC-Offshore
  - Sail Handling-Choice
  - Steering
  - Decision Making
  - Starting

Practice at Night VMC

Instrument Sailing



Pick the Proper Sail for Angle and Speed

PREPARING TO RACE

Know the Rules:

- https://www.transpacyc.com/

Boat

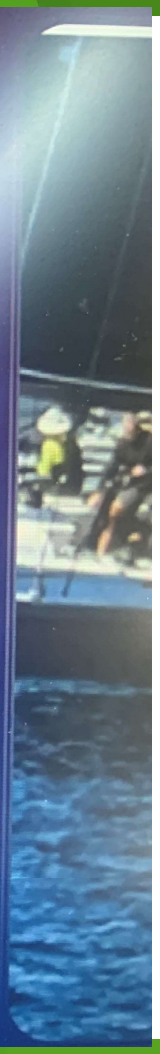
- Equipment, Sails, Safety Gear, Race Ready
- Keep it light!

Crew

- organization, balance of experience – keep it light!

Practice

- night sailing & watches
- Heavy reaching, reefing, sail crossovers
- Stacking
- Downwind VMG sailing



Around the Buoys
VMG

Boat Handling

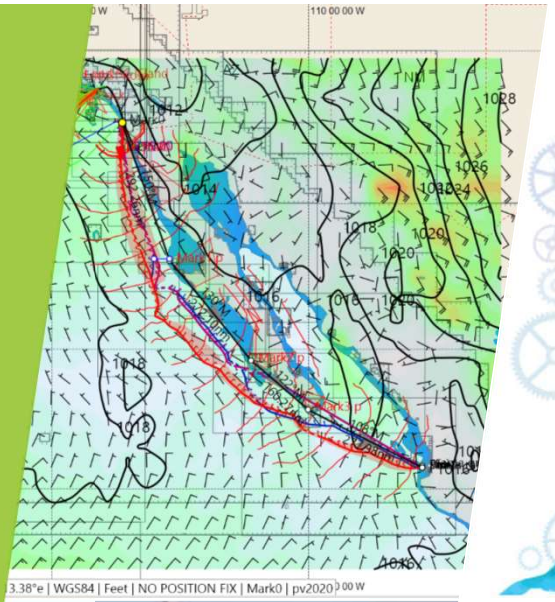
Boat Speed

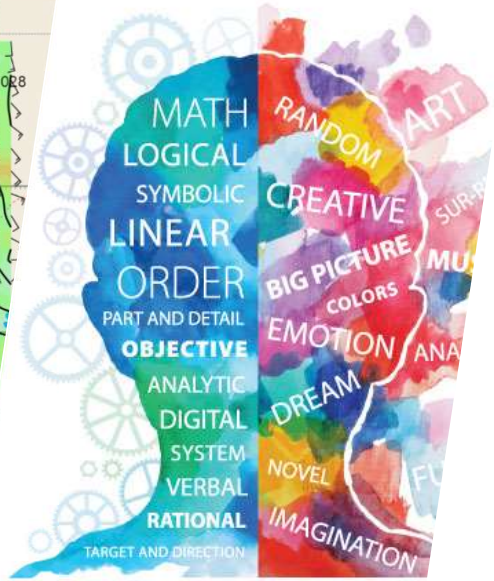
Starting

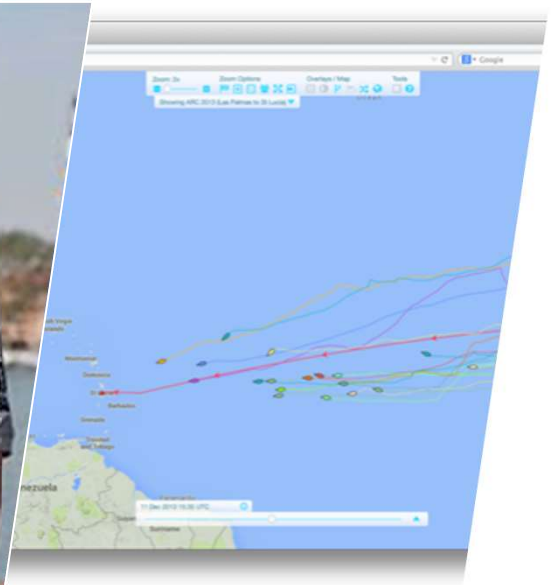
Tactics

Safety Check List

- Race Requirements
- Items-dates-storage
- Location List below
- Early inspection
- Practice Man-Overboard
- Requirements for jackets on
- AIS-boat-individual
- Safety at Sea







Do Your Homework Now

- Listen to experts
- Route races from the past
- Look at Yellowbrick past winners
- Look for weather patterns that time of year
- Store all the information on the left side

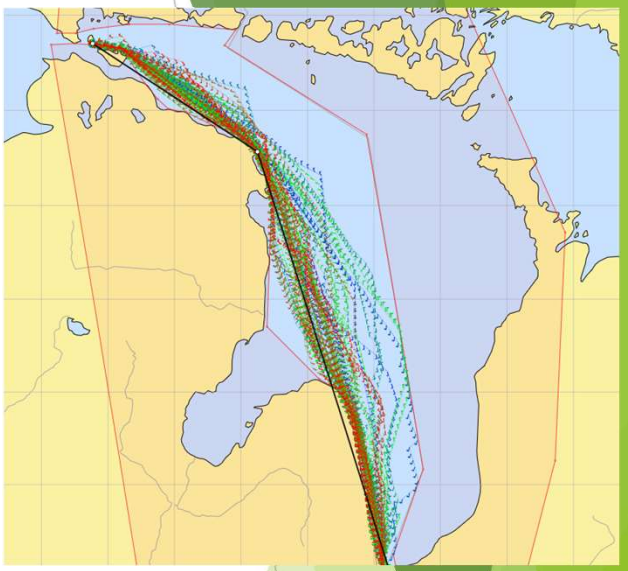
Bayview Mac Race 2020 - Shore Course w/ COVID-19 restictions

POLAR GL 52 Heartbreaker

Min time	18h 30m 29s
Mean time	1d 00h 57m 29s
Max time	1d 05h 08m 28s
Mean distance	211.59nm

True Wind Angle

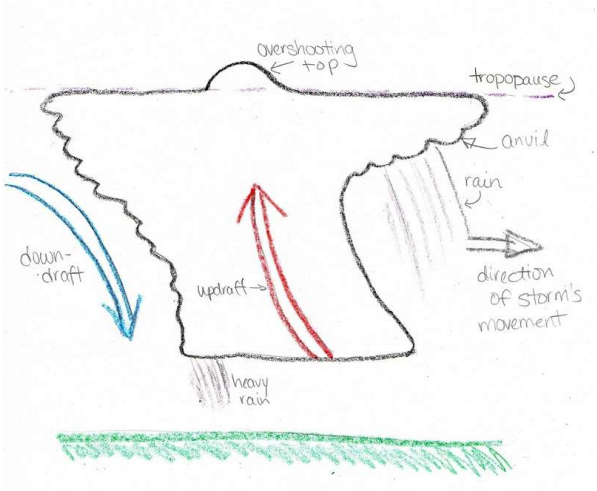
True Wind Speed	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	Total
40																			
38																			
36																			
34																			
32																			
30																			
28																			
26														0.0%					0.0%
24								0.0%	0.0%			0.0%		0.0%	0.0%				0.1%
22					0.0%						0.0%	0.0%		0.1%	0.0%				0.2%
20				0.2%	0.1%			0.0%	0.0%	0.0%	0.0%		0.0%	0.1%	0.0%				0.5%
18				0.3%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	0.2%					1.0%
16				1.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	0.0%				2.7%
14				1.7%	0.2%	0.1%	0.2%	0.1%	0.1%	0.1%	0.4%	0.3%	0.5%	0.3%	0.2%	0.3%	0.1%	0.0%	4.8%
12				3.4%	0.5%	0.4%	0.6%	0.3%	0.2%	0.5%	0.6%	0.6%	0.7%	0.5%	0.1%	0.2%	0.3%	0.1%	9.1%
10				5.2%	1.2%	0.9%	0.7%	1.0%	0.7%	0.6%	0.8%	0.9%	1.9%	1.1%	0.4%	0.4%			15.7%
8				2.6%	2.9%	1.4%	0.9%	1.1%	0.7%	0.9%	1.0%	1.0%	2.8%	1.1%	0.6%	0.7%	0.1%		17.8%
6					6.0%	1.4%	2.0%	1.3%	0.7%	1.3%	1.0%	0.4%	0.7%	0.5%	0.9%	1.3%	2.1%	0.4%	19.8%
4					6.0%	0.8%	0.9%	0.8%	0.6%	1.8%	1.8%	1.5%	1.1%	1.1%	0.6%	0.5%	0.1%		17.5%
2					2.8%	1.3%	0.6%	0.5%	3.1%	2.0%	0.3%	0.1%	0.0%						10.7%
Total				14.4%	19.9%	6.1%	5.9%	5.2%	6.3%	7.3%	6.4%	5.2%	8.1%	5.5%	2.9%	3.4%	2.7%	0.5%	

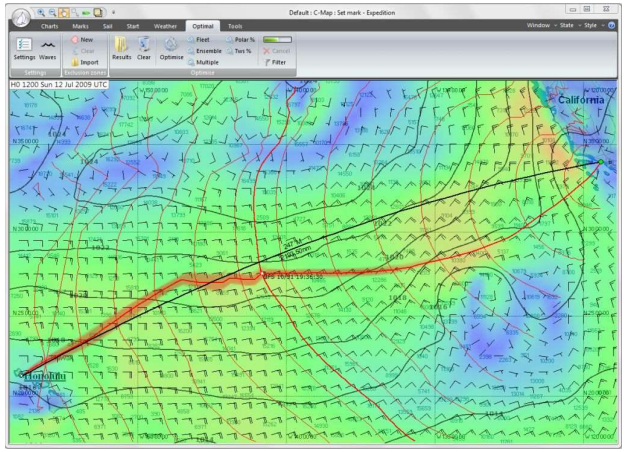


10 Years History Mac Shore

Organize the Stuff

- Watermaker/filter
- Jet boil
- Freeze dry
- Location chart
- Dry bags
  - Crew
  - Safety
  - Spare parts
  - Sail repair
  - Tools
  - Sunscreen-bug spray



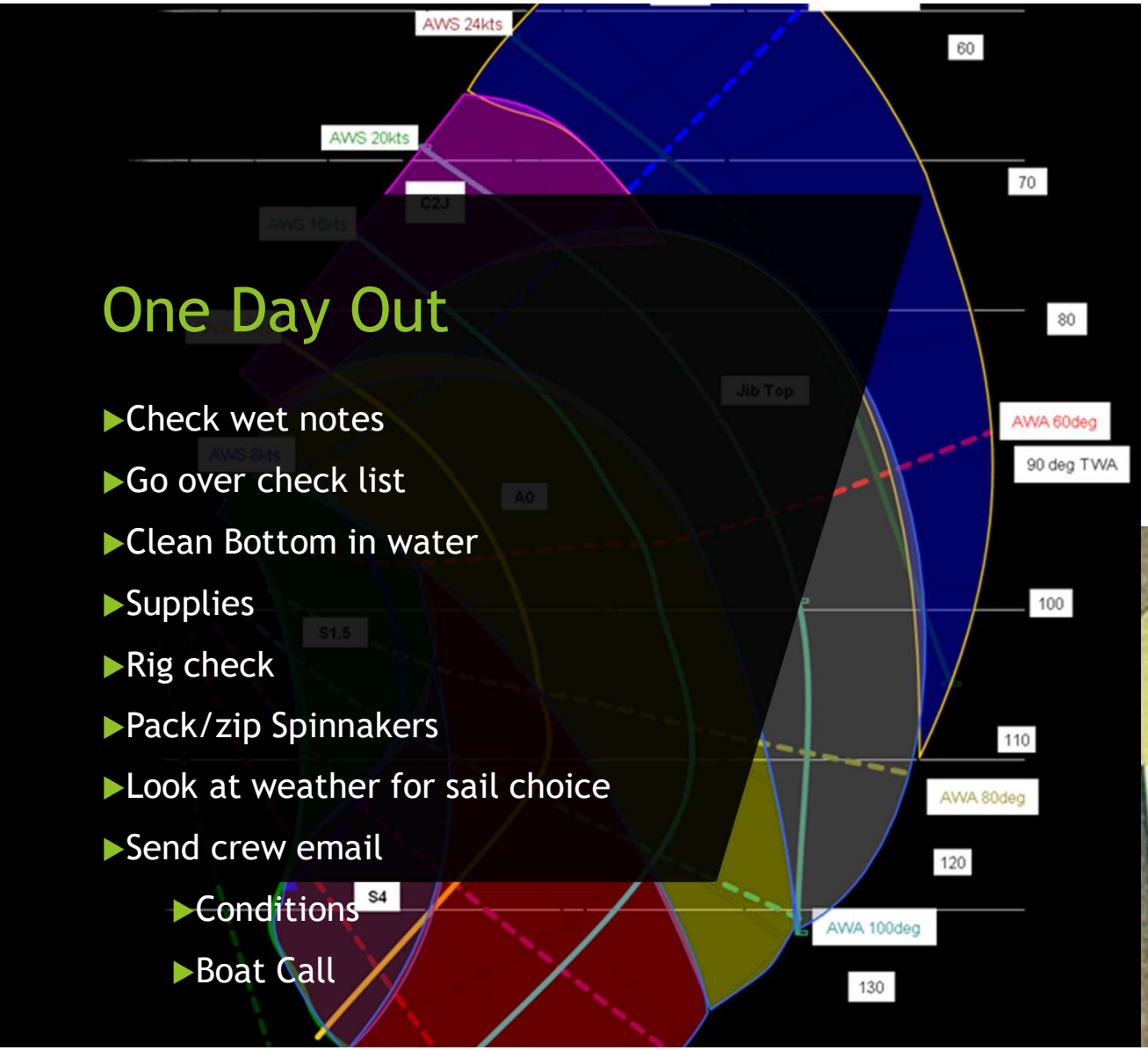


One Week Out

- Look at all weather sources
- Run a route once a day at start time
- Review with crew possible conditions
- Pull the boat out of the water (team smooth)

One Day Out

- Check wet notes
- Go over check list
- Clean Bottom in water
- Supplies
- Rig check
- Pack/zip Spinnakers
- Look at weather for sail choice
- Send crew email
  - Conditions
  - Boat Call



Race Day

- Team Meeting at Dock
  - Goals
  - Weather
  - Safety
  - Rig Tune
  - Sail Choice

Good Luck

- Make Your Luck with Great Preparation