



Race Handicaps

Vic-Maui 2016 Preparation Seminar



Why Use ORC?

- **THIS IS NOT PHRF**
 - PHRF methodology does not work for ocean races
- Dissatisfaction with ORR used for past 5 races
- IRC has limitations
- ORC is math based, ISAF supported, allows custom courses
 - administered by professional staff in London
 - used by major European races, Local fleet, Sydney-Hobart
- Time allowances are based on proprietary Velocity Prediction Program and expected weather
 - Based on hull shape & sailing configuration
 - Measurement of displacement and righting moment
- Cruising Division has option
 - Otherwise estimates prepared by Measurer



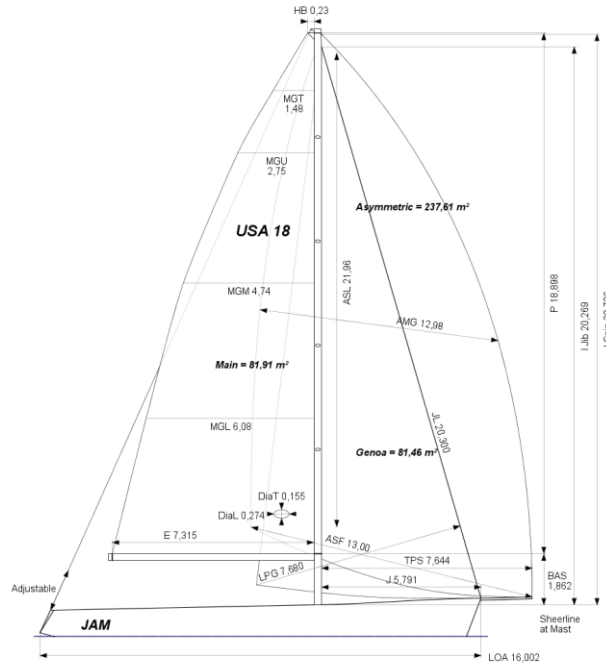
Process for ORC-Club+

- Apply on-line to ORC for ORC Club certificate
 - Enter your data onto www.orc.org. Receive “Test” Certificate and submit to Vic-Maui
 - Most hull forms in ORC database or available from Builder
- Schedule Measurement with Vic-Maui or ORC measurers
 - Install heavy, permanent gear. Ie; watermakers
 - Measurement sessions in February/March at RVYC Coal Hbr. Other locations *to be announced*.
- Measurement submitted and Final Certificate issued
 - On-line payment of €42 to ORC Canada for Final Certificate
- Submit Final Certificate to Vic-Maui by April 30, 2015

Measurement



- Why go to the trouble?
 - More rigour = fairer racing
 - Most boats are much heavier than builder's spec
- Measurement Trim
 - Not as difficult as you might think – V-M will post Checklist
 - Sails and loose gear, stores, tools, safety gear off
 - you want to do this anyway
 - Mattresses and all permanent gear on
 - Water tanks empty, fuel tanks topped off
- What is Measured?
 - Freeboard at 4 spots
 - Incline testing with poles and weights
 - Location of major weights, tanks
 - Confirm rig configuration
 - Audit of sail dimensions – Sailmaker certificate is preferable



2014
ORC Club
Certificate

Rating Office
ORC
Central Rating Office
issuing certificates for
CANADA



Certificate

Number 023714
Issued On 30.10.2014.
ORC Ref. C#00063136
VPP Ver. 2014.1.01
Valid until 31.12.2014.

Crew Weight

Declared 907 kg
Default* 1,241 kg
Non Manual Pwr No

Special Scoring

	ToD	ToT
Double H/GPH	543.6	1.1030
Double H/OSN	530.4	1.1313
Non Spin GPH	573.9	1.0455
Non Spin OSN	550.1	1.0732
N/S Perf. Line	39.4	0.808

Sails Limitations

Genoa 4 Spinnakers 4
Jibs 3

Spinnaker configuration

Symmetric No
Asymmetric Yes 237.61
Flying JPS No
Spin Pole No

Stability

LPS (estimated): 112.0°
Stability Index: 122.9
OSR Category: 0

Owner

McPhail

I hereby Read Understand my responsibilities under ORC Rules and Regulations

Signature

BOAT		GPH	HULL			
Name Jam Sail Nr USA 18		541.9	Data File USA18.dxt Offset File US31022 OFF Displacement 16,252 kg	LOA 16.002 m MB 4.426 m Draft 2.776 m		
CLASS			IMS Division Cruiser/Racer Dynamic All 0.1434 Construction Cored Fwd Accom Yes Fiber Rigging No Crew Arm Ex 0.00			
Class J-160 DK Designer Johnstone Builder TPI Series 05.1996 Age Date 05.1996 Age Allowance 0.48/a			Carbon Rudder No Light Stanchions No IMS L 14.931 Wetted Area 52.61 m ² VCGM -0.067			
COMMENTS			CENTERBOARD			
PROPELLER			N/A			
Installation Shaft exposed PRD 0.579 Type Feathering 2 blades PBW 0.183 PIPA 0.0084						
SCORING OPTIONS						
	OFFSHORE COASTAL / LONG DISTANCE		INSHORE WINDWARD / LEEWARD			
Time On Distance	528.3		596.1			
Time On Time	1.1356		1.1323			
Performance Line	PLT	PLD	PLT	PLD		
	0.916	72.6	0.851	137.6		
Triple Number	Low	Medium	High	Low	Medium	High
	1.0580	1.4193	1.6222	0.7992	1.1228	1.3402

Not Used for Vic-Maui



BOAT							
Name	Jam	Certificate Number 023/14					
Sail Nr	USA 18	Issued On 30.10.2014.					
TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	954.0	777.8	680.4	624.7	593.5	573.5	555.5
52°	609.7	504.4	445.3	421.3	410.5	404.6	397.9
60°	566.9	472.9	425.2	406.8	398.4	393.2	387.4
75°	531.5	447.6	411.8	395.5	384.2	376.8	368.6
90°	532.7	447.4	412.1	395.3	382.3	369.7	350.2
110°	551.1	452.3	406.8	384.4	371.4	363.2	348.7
120°	571.2	460.5	409.6	389.5	371.9	356.1	337.7
135°	657.3	521.2	442.5	408.1	389.0	371.5	333.6
150°	797.5	628.6	516.6	455.9	418.0	397.3	364.3
Run VMG	920.9	725.8	596.5	526.4	477.3	443.4	399.9
Selected Courses							
Windward / Leeward	937.5	751.8	638.4	575.6	535.4	508.4	477.7
Circular Random	760.7	608.0	524.8	475.8	445.3	425.3	400.0
Ocean for PCS	813.2	636.2	536.6	475.5	435.3	406.9	366.5
Non Spinnaker	817.4	648.9	555.4	499.0	463.0	438.9	409.0

Input to Time Allowance Calculation



These are your boat's speed target Polars



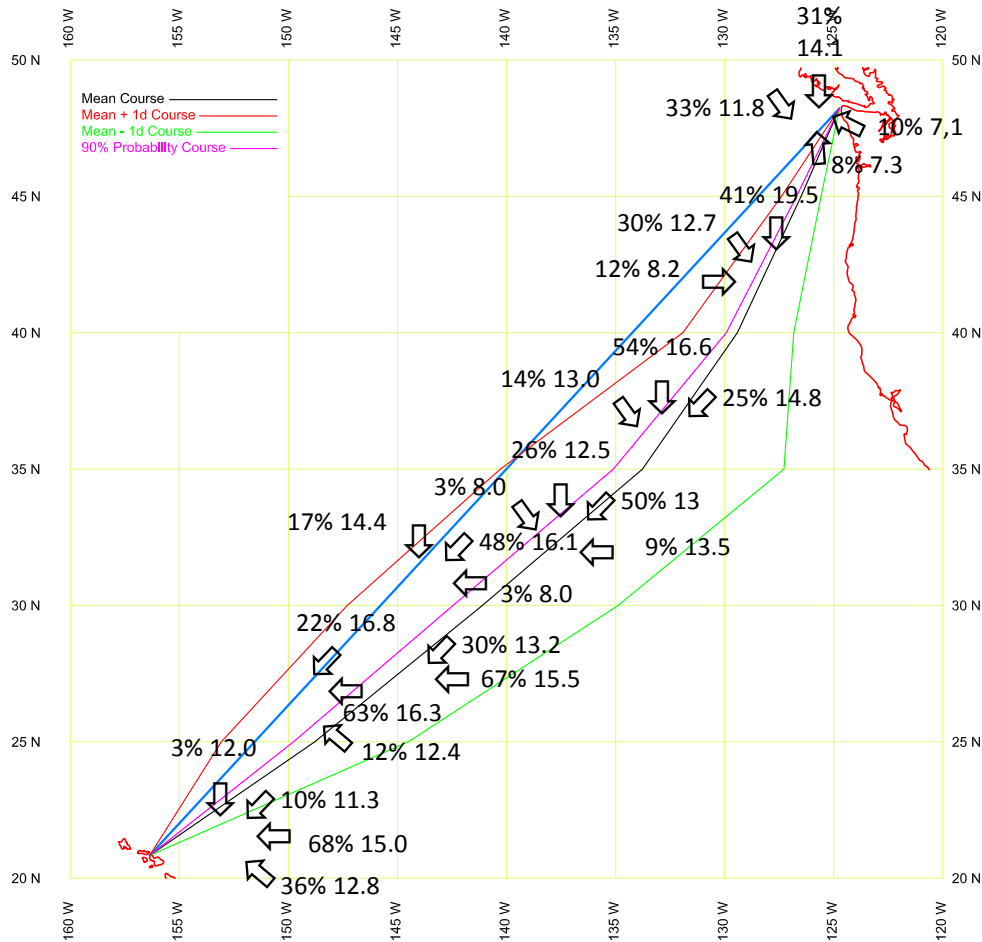
Velocity Prediction in Knots for True Wind Speeds							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	45.2°	43.7°	43.1°	41.9°	40.2°	38.8°	37.8°
Beat VMG	3.77	4.63	5.29	5.76	6.07	6.28	6.48
52°	5.90	7.14	8.08	8.54	8.77	8.90	9.05
60°	6.35	7.61	8.47	8.85	9.04	9.15	9.29
75°	6.77	8.04	8.74	9.10	9.37	9.55	9.77
90°	6.76	8.05	8.74	9.11	9.42	9.74	10.28
110°	6.53	7.96	8.85	9.36	9.69	9.91	10.32
120°	6.30	7.82	8.79	9.24	9.68	10.11	10.66
135°	5.48	6.91	8.13	8.82	9.25	9.69	10.79
150°	4.51	5.73	6.97	7.90	8.61	9.06	9.88
Run VMG	3.91	4.96	6.04	6.84	7.54	8.12	9.00
Gybe Angles	140.9°	139.1°	143.9°	148.3°	155.8°	161.4°	174.5°



VIC AU
INTERNATIONAL YACHT RACE

Expected Weather

VIC-MAUI— MEAN COURSES 2006 TO 2014





Vic-Maui Weather Matrix

(NOTE: This is old matrix, will be updated for 2016)

	True Wind Speed						
TWA	6	8	10	12	14	16	20
VMG Beat	1.0%	0.8%	0.8%	0.3%	0.3%	xxxxx	xxxxx
90	0.8%	3.3%	3.3%	0.8%	xxxxx	xxxxx	xxxxx
110	xxxxx	1.2%	2.2%	2.2%	2.2%	1.7%	1.5%
120	xxxxx	1.1%	2.2%	4.5%	2.2%	1.1%	xxxxx
150	xxxxx	5.4%	6.7%	6.7%	4.0%	1.3%	2.7%
VMG Run	xxxxx	1.9%	5.8%	5.8%	8.7%	9.9%	7.6%

Vic-Maui VPP Performance Chart

	True Wind Speed						
TWA	6	8	10	12	14	16	20
VMG Beat	9.54	6.22	5.44	1.87	1.78	xxxxx	xxxxx
90	4.26	14.76	13.60	3.16	xxxxx	xxxxx	xxxxx
110	xxxxx	5.43	8.95	8.46	8.17	6.17	5.23
120	xxxxx	5.07	9.01	17.53	8.18	3.92	xxxxx
150	xxxxx	33.94	34.61	30.55	16.72	5.16	9.84
VMG Run	xxxxx	13.79	34.60	30.53	41.53	43.90	30.39

Vic-Maui Time Allowance = 472.32 sec/mile



Time Allowance

- Time allowance is the sum of performance matrix cells
 - Good for Vic-Maui only
- Expressed as seconds to sail 1 mile averaged over historical wind over the course
- Time on Distance allows boats to monitor performance and corrected time to leader
 - Correction is simply Handicap x 2308 n.miles
- Handicap = Your T.A. – T.A. of scratch boat
 - Just like PHRF