



ORC
Offshore Racing Congress
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2020 ORC Club Certificate

Rating Office

Offshore
Racing
Congress



Certificate

Number **US6089**
Issued On **03/11/2020**
ORC Ref **03410000SLR**
VPP Ver. **2020 1.02**
Valid until **31/12/2020**

Crew Weight

Default	641kg
Maximum	791kg
Minimum*	593kg
*when applied by the NoR and SI	
Non Manual Pwr	No

Special Scoring

	ToD	ToT
Non Spin GPH	639.0	0.9390
Non Spin OSN	622.3	0.9641

Sails Limitations

Headsails **5** Spinnakers **4**

Asymmetric on centerline

Spinnaker configuration
Symmetric: **No**
Asymmetric: **Yes** **121.05**
Flying H/S: **No**
Spin. Pole: **No**

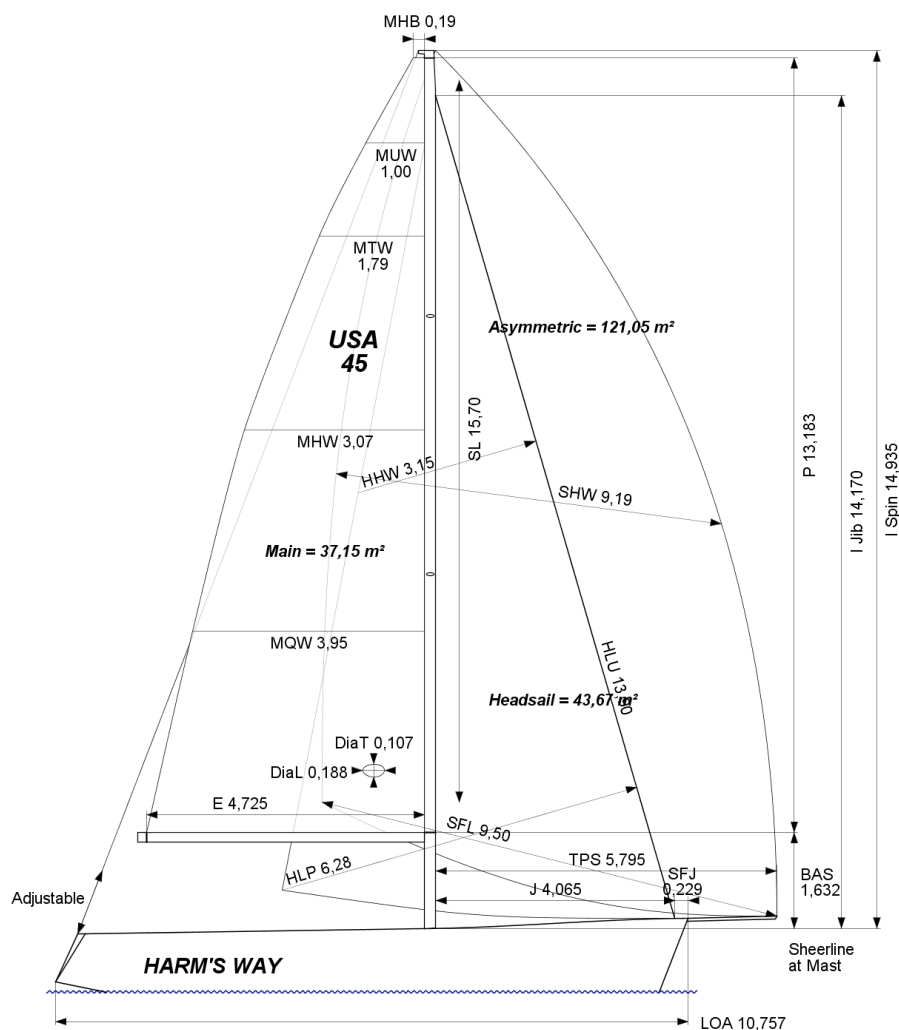
Class Division Length

CDL = 9.473

Stability (Estimated)

Limit Positive Stab.: **119.5°**
Stability Index: **119.5**

Owner



BOAT		GPH		HULL		
Name Harm's Way		605.6		Data File US6089	LOA 10.757m	
Sail Nr USA 45				Offset File F199.OFF	MB 3.524m	
				Displacement 5,189kg	Draft 2.139m	
CLASS				IMS Division Cruiser/Racer	Dynamic All. 0.002%	
Class J-109				Plan Review	Construction Cored	
Designer Johnstone				Fiber Rigging No	Aramid Core No	
Builder JBoats				Crew Arm Ex	Carbon Rudder No	
Series 10/2001				Light Stanchions		
Age Date 03/2005				IMSL 9.661m	VCGD -0.018m Sink 18.45kg/mm	
Age Allowance 0.487%				RL 9.284m	VCGM -0.055m WS 24.95m²	
COMMENTS				LSM0 9.510m	Displacement/Length ratio 6.0331	
				Water Ballast 0	Trim Tab No	
				BLR Index 0.0000		
PROPELLER				CENTERBOARD		
Installation Strut		PRD 0.400		N/A		
Type Folding 2 blades		PIPA 0.0031				
SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	589.9			659.8		
Time on Time	1.0171			1.0230		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	684.7	538.8	487.3	882.9	661.2	587.3
Time on Time	0.9859	1.2529	1.3851	0.7645	1.0209	1.1494

2020

ORC Club Certificate Appendix

BOAT			
Name	Harm's Way	Certificate Number	US6089
Sail Nr	USA 45	Issued On	03/11/2020

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	997.9	827.9	731.0	693.0	676.7	668.7	666.4
52°	655.6	554.4	511.8	496.0	489.6	486.2	484.5
60°	619.5	533.8	500.7	485.2	477.6	473.2	469.8
75°	592.9	520.3	492.3	474.5	460.7	451.8	443.5
90°	600.8	520.0	488.1	471.8	454.1	438.3	417.6
110°	604.5	510.9	476.8	452.1	434.0	422.1	400.8
120°	620.0	518.2	480.8	453.0	426.9	405.4	379.0
135°	695.7	559.6	499.7	471.0	443.7	417.4	365.1
150°	820.6	656.5	555.1	505.0	482.4	463.8	419.0
Run VMG	947.6	758.1	640.9	582.6	554.0	511.0	465.5
Selected Courses							
Windward / Leeward	972.8	793.0	685.9	637.8	615.3	589.8	566.0
Circular Random	824.7	669.6	587.9	541.7	513.8	495.5	471.4
Coastal / Long Distance	970.3	745.8	622.4	559.0	525.8	495.9	450.8
Non Spinnaker	886.1	713.0	619.6	565.1	531.5	509.8	482.9

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	42.4°	41.3°	39.8°	38.1°	37.5°	37.1°	37.1°
Beat VMG	3.61	4.35	4.93	5.19	5.32	5.38	5.40
52°	5.49	6.49	7.03	7.26	7.35	7.40	7.43
60°	5.81	6.74	7.19	7.42	7.54	7.61	7.66
75°	6.07	6.92	7.31	7.59	7.81	7.97	8.12
90°	5.99	6.92	7.38	7.63	7.93	8.21	8.62
110°	5.96	7.05	7.55	7.96	8.29	8.53	8.98
120°	5.81	6.95	7.49	7.95	8.43	8.88	9.50
135°	5.17	6.43	7.20	7.64	8.11	8.63	9.86
150°	4.39	5.48	6.49	7.13	7.46	7.76	8.59
Run VMG	3.80	4.75	5.62	6.18	6.50	7.04	7.73
Gybe Angles	144.5°	148.0°	148.0°	150.5°	174.0°	177.0°	177.5°