

BOAT Name ORION Sail Nr USA-12282	GPH 581.0	HULL Length Overall 12.200m Maximum Beam 3.638m Displacement 6,989kg Draft 2.219m IMS Reg. Division Dynamic Allowance 0.087% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder Yes Crew Arm Extension 0.00
GENERAL Class J122 Designer ALAN JOHNSTONE Builder J EUROPE Series 01/2006 Age 05/2006 Age Allowance 0.357% Offset File us42407.off - 27/05/2014 12:43:22 Measurement by D. DAVIS - 27/05/2017		IMSL 11.052m VCGD -0.073m Sink 22.85kg/mm RL 9.684m VCGM -0.090m WS 30.47m² LSMO 10.907m Displacement/Length ratio 5.3864



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SCORING OPTIONS	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	Time On Distance	565.6			637.0	
Time On Time	1.0608			1.0596		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	665.6	514.6	459.1	866.4	639.4	558.9
Time on Time	1.0141	1.3118	1.4702	0.7791	1.0556	1.2078

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1009.4	832.7	729.4	678.6	656.2	644.7	629.7
52°	654.3	546.3	490.1	469.2	461.3	457.1	451.1
60°	612.9	516.1	474.1	456.2	447.7	442.8	437.8
75°	578.9	494.9	462.7	443.6	428.7	418.7	410.4
90°	579.4	483.9	458.8	441.9	423.7	406.1	382.8
110°	573.1	479.6	445.3	424.6	410.9	398.3	374.9
120°	588.6	488.3	451.3	424.4	398.6	383.0	358.4
135°	659.5	531.1	471.2	443.4	418.0	391.6	336.9
150°	781.9	623.8	527.0	475.7	454.3	434.6	389.2
Run VMG	902.9	720.3	608.6	548.8	521.1	483.4	438.0

Selected Courses							
Windward / Leeward	956.1	776.5	669.0	613.7	588.7	564.1	533.9
Circular Random	799.8	645.7	563.6	516.4	487.2	467.6	440.3
Ocean for PCS	981.6	758.6	633.1	556.6	506.8	471.7	421.8
Non Spinnaker	870.0	695.2	599.6	542.7	507.1	483.3	452.9

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	43.8°	42.5°	42.2°	40.3°	39.4°	38.8°	38.3°
Beat VMG	3.57	4.32	4.94	5.31	5.49	5.58	5.72
52°	5.50	6.59	7.35	7.67	7.80	7.88	7.98
60°	5.87	6.98	7.59	7.89	8.04	8.13	8.22
75°	6.22	7.27	7.78	8.12	8.40	8.60	8.77
90°	6.21	7.44	7.85	8.15	8.50	8.87	9.40
110°	6.28	7.51	8.08	8.48	8.76	9.04	9.60
120°	6.12	7.37	7.98	8.48	9.03	9.40	10.04
135°	5.46	6.78	7.64	8.12	8.61	9.19	10.69
150°	4.60	5.77	6.83	7.57	7.92	8.28	9.25
Run VMG	3.99	5.00	5.92	6.56	6.91	7.45	8.22
Gybe Angles	143.5°	147.2°	148.3°	150.7°	152.6°	176.0°	177.6°

Certificate

Number **US6115**
ORC Ref **USA00000417**
Issued On **05/07/2017**
VPP Ver. **2017 1.00**
Valid until **28/02/2018**

Crew Weight

Declared **850kg**
Default* **779kg**
Non Manual Pwr **No**

Special Scoring

ToD ToT
Non Spin GPH **619.0 0.9693**
Non Spin OSN **602.4 0.9961**

Sails Limitations

Headsails	Spinnakers
6	4

Class Division Length

CDL = **10.369**

Storm Sails Areas


Heavy Weather Jib **37.80**
Storm Jib (JL=10.88) **14.00**
Storm Trysail **14.61**

Owner

BOAT	
Name ORION	Sail Nr USA-12282
File US6115	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 27/05/2017		SG 1.0040	
FFM 1.367	FF 1.380	SFFP 0.300	
FAM 0.982	FA 0.987	SAFP 11.850	
W1 108.3	PD1 550.9	WD 11.850	
W2 108.3	PD2 548.9	GSA 1.0	
W3 108.3	PD3 549.5	RSA 1.0	
W4 108.3	PD4 547.8	PLM 9000.0	
LCF from stem on CL / on sheer		6.762 / 6.984	
Maximum beam station from stem		7.800	
RM Measured		184.0kg·m	
RM Default		182.0kg·m	
Limit of positive stability / Stab.Index		121.2° / 125.0	
Freeboard at mast at 4.874		1.164	

RIG			
Forestay Tension Aft	Spreaders 2		
Inner Stay None Fitted	Runners 0		
Carbon Mast Yes	Jumper Struts None		
Taper Hollows No	Jib Furler No		
Fiber Rigging No	Main Furler No		
Lenticular Rigging No	Without Backstay No		
Articulated Bowsprit No			
P 15.643	E 5.337	MDT1 0.146	MW 0.212
IG 16.620	J 4.574	MDL1 0.241	GO 0.243
ISP 17.807	SFJ 0.300	MDT2 0.134	BD 0.225
BAS 1.719	SPL 0.000	MDL2 0.192	MWT 177.50
FSP 0.072	TPS 6.450	TL 2.200	MCG 5.832




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IMS Measurement Certificate

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MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.460		
Type Folding 2 blades	PBW 0.115		
Twin Screw No	PIPA 0.0039		
ST1 0.065	ST3 0.180	ST5 0.290	
ST2 0.180	ST4 0.110	EDL 2.200	

COMMENTS	
IRC FLOAT FBD ADJ IRC SCALE = 6990 OFF ADJ 7 G FUEL FBD ADJ New spar, new FB & inclining	

MOVEABLE BALLAST	
N/A	

CENTERBOARD	
N/A	

SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.160	1.13	2.04	3.48	4.48	49.91	50.91	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric									
Not Available									
Asymmetric									
	SLU	SLE	SL	SHW	SFL	152.39	AS · (SFL + 4·SHW) / 6		
	18.07	18.07	18.07	10.13	10.08				

HEADSAILS												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment
0.65	1.29	2.56	3.80	5.03	16.35	41.61						* Copied from legacy *

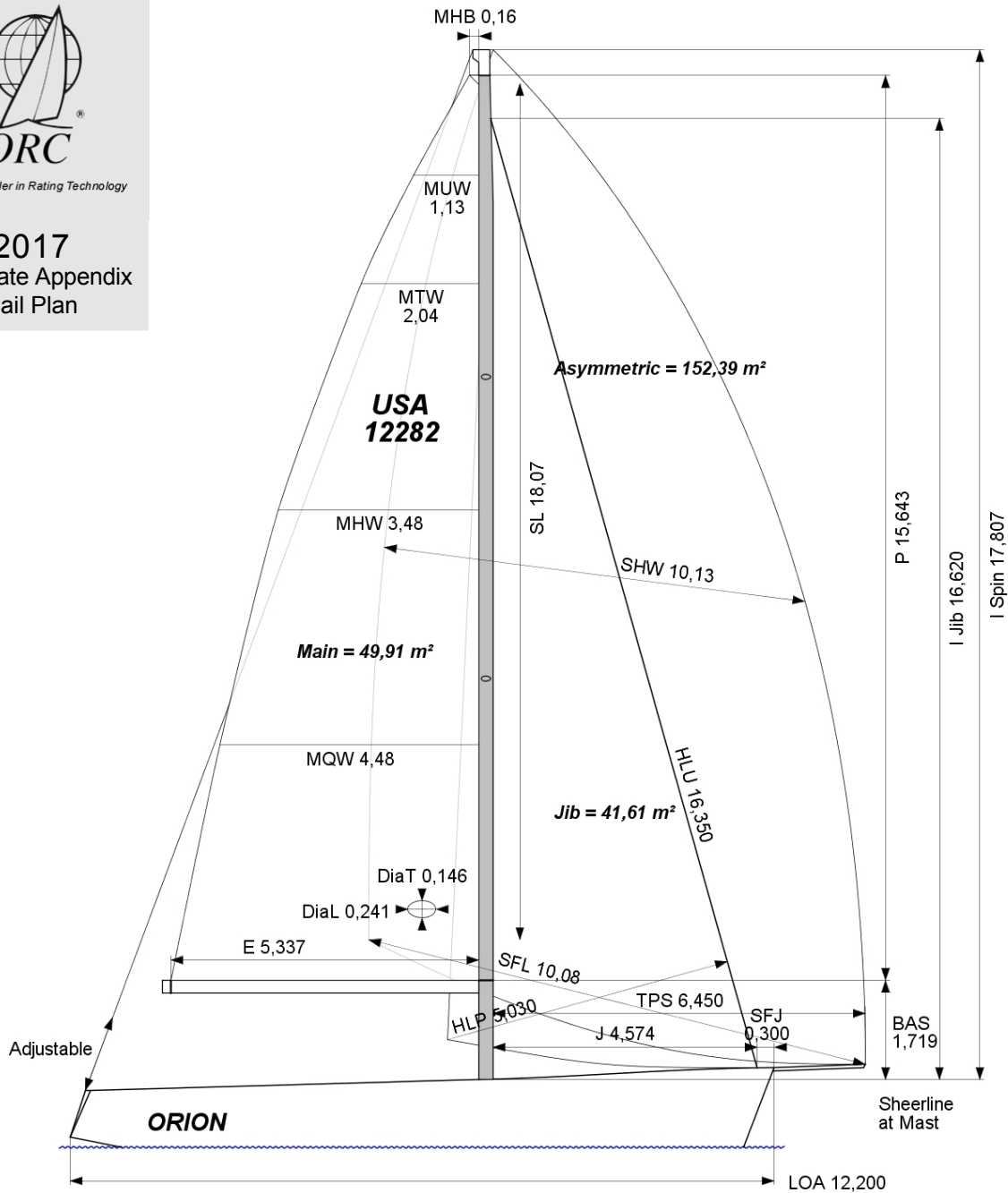
MEASUREMENT INVENTORY				
Measurer	Date	Comment		
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
<i>Id</i>	<i>Item</i>	<i>Maker</i>	<i>Model</i>	
1	Engine	VOLVO	D2 30HP	
<i>Id</i>	<i>Item</i>	<i>Weight Description</i>		

MEASUREMENT INVENTORY								
<i>Id</i>	<i>Item</i>	<i>Tank Use</i>	<i>Tank Type</i>	<i>Capcty</i>	<i>Dist.</i>	<i>VCG</i>	<i>Condtn</i>	<i>Description</i>
2	Tank	WATER	SS	160.0	5.00	-0.10	0-0	
1	Tank	FUEL	SS	100.0	5.20	-0.10	50-0	
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>				
2	Battery	30.0	7.90	0.00	100	AH	12V	ENGINE BATTERY
1	Battery	70.0	6.10	0.00	2 X	100AH	12V	BATTERIES
3	Misc	12.0	10.50	0.00	AUTOPILOT ON QUADRANT			
2	Misc	8.0	12.00	0.20	SATCOM ANTENNA DOME			
1	Misc	12.0	9.50	0.20	WATER HEATER			



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Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (1)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
114054	0.160	1.13	2.04	3.48	4.48	49.91				Unknown						
HEADSAILS (1)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
ORC		0.65	1.29	2.56	3.80	5.03	16.35	110%	41.61							* Copied from legacy *
SYMMETRIC SPINNAKERS (0)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
ASYMMETRIC SPINNAKERS (1)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
ORC	18.07	18.07	18.07	10.13	10.08	152.39	asym					* Copied from legacy *				