

BOAT Name Reindeer Sail Nr USA 666	GPH 549.2	HULL Length Overall 14.440m Maximum Beam 4.206m Displacement 10,136kg Draft 2.525m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.004% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder Yes Crew Arm Extension
GENERAL Class Morris 47 Designer Farr Builder Morris Series 03/1998 Age 03/1998 Age Allowance 0.487% Offset File US31114A.OFF - 21/05/2010 14:30:40 Measurement by Davis - 12/04/2002		IMSL 12.902m VCGD 0.084m Sink 29.44kg/mm RL 10.712m VCGM 0.132m WS 40.31m² LSMO 12.916m Displacement/Length ratio 4.7042



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SCORING OPTIONS	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	Low	Medium	High	Low	Medium	High
Time On Distance	535.9			606.2		
Time On Time	1.1196			1.1135		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	630.3	485.7	434.2	826.7	607.6	530.5
Time on Time	1.0709	1.3897	1.5545	0.8165	1.1110	1.2725

TIME ALLOWANCES	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	938.7	774.9	687.7	645.2	623.1	610.7	595.2
52°	604.2	504.3	457.3	441.9	434.5	430.0	424.2
60°	564.0	475.4	440.5	428.2	421.5	417.3	413.0
75°	530.1	455.4	427.8	412.5	402.7	396.0	388.7
90°	528.0	453.2	425.1	407.2	391.1	377.5	364.0
110°	555.1	457.2	420.8	403.8	390.5	378.0	356.5
120°	569.4	465.7	425.3	400.5	379.4	365.9	342.1
135°	646.2	511.4	445.8	417.7	394.6	370.0	321.0
150°	769.4	610.3	508.7	450.4	426.1	408.7	369.1
Run VMG	888.4	704.7	587.4	520.0	490.5	464.7	416.2

Certificate

Number **US6075**
ORC Ref **USA00001157**
Issued On **19/10/2017**
VPP Ver. **2017 1.00**
Valid until **28/02/2018**

Crew Weight

Declared **992kg**
Default* **992kg**
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Non Spin GPH	578.6	1.0370
Non Spin OSN	566.3	1.0595

Selected Courses	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Windward / Leeward	913.5	739.8	637.5	582.6	556.8	537.7	505.7
Circular Random	757.1	610.6	532.6	487.8	460.4	442.2	416.9
Ocean for PCS	936.5	721.5	600.5	527.0	479.5	446.5	399.9
Non Spinnaker	808.7	648.3	560.8	508.9	476.1	454.2	426.2

Sails Limitations

Headsails	Spinnakers
7	5

Velocity Prediction in Knots for True Wind Speeds	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	44.5°	43.5°	42.8°	40.9°	39.6°	38.9°	38.5°
Beat VMG	3.84	4.65	5.24	5.58	5.78	5.90	6.05
52°	5.96	7.14	7.87	8.15	8.29	8.37	8.49
60°	6.38	7.57	8.17	8.41	8.54	8.63	8.72
75°	6.79	7.91	8.42	8.73	8.94	9.09	9.26
90°	6.82	7.94	8.47	8.84	9.21	9.54	9.89
110°	6.49	7.87	8.56	8.92	9.22	9.52	10.10
120°	6.32	7.73	8.46	8.99	9.49	9.84	10.52
135°	5.57	7.04	8.08	8.62	9.12	9.73	11.21
150°	4.68	5.90	7.08	7.99	8.45	8.81	9.75
Run VMG	4.05	5.11	6.13	6.92	7.34	7.75	8.65
Gybe Angles	142.8°	146.1°	145.4°	150.5°	151.6°	174.5°	177.6°

Class Division Length

CDL = 11.808

Storm Sails Areas

Heavy Weather Jib **45.52**
Storm Jib (JL=11.94) **16.86**
Storm Trysail **18.32**

Owner

BOAT	
Name Reindeer	Sail Nr USA666
File US6075	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 07/05/2010		SG 1.0000	
FFM 1.487	FF 1.505	SFFP 0.393	
FAM 1.156	FA 1.167	SAFP 13.423	
W1 111.1	PD1 215.0	WD 14.318	
W2 111.1	PD2 215.0	GSA 18.8	
W3 111.1	PD3 215.0	RSA 6500.0	
W4 111.1	PD4 215.0	PLM 2000.0	
LCF from stem on CL / on sheer		7.988 / 8.256	
Maximum beam station from stem		8.684	
RM Measured		258.2kg·m	
RM Default		289.6kg·m	
Limit of positive stability / Stab.Index		109.4° / 114.2	
Freeboard at mast at 0.000		1.256	

RIG			
Forestay Tension Aft	Spreaders 3		
Inner Stay None Fitted	Runners 0		
Carbon Mast Yes	Jumper Struts None		
Taper Hollows	Jib Furler		
Fiber Rigging	Main Furler		
Lenticular Rigging	Without Backstay		
Articulated Bowsprit No			
P 17.508	E 5.980	MDT1 0.152	MW 0.213
IG 18.230	J 5.105	MDL1 0.238	GO 0.250
ISP 19.471	SFJ -0.003	MDT2 0.131	BD 0.195
BAS 1.664	SPL	MDL2 0.210	MWT 293.00
FSP 0.073	TPS 6.920	TL 1.024	MCG 6.341

MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.430		
Type Feathering 2 blades	PBW 0.152		
Twin Screw	PIPA 0.0037		
ST1 0.042	ST3 0.177	ST5 0.299	
ST2 0.177	ST4 0.110	EDL 2.234	

COMMENTS	

MOVEABLE BALLAST	
N/A	

CENTERBOARD	
N/A	

SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.070	1.29	2.35	3.93	5.10	63.23	64.58	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric Not Available									
Asymmetric	SLU	SLE	SL	SHW	SFL			AS · (SFL + 4·SHW) / 6	
	22.04	18.60	20.32	11.99	11.84	202.52			

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
					7.80	18.59	73.82				Unknow	



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IMS Measurement Certificate

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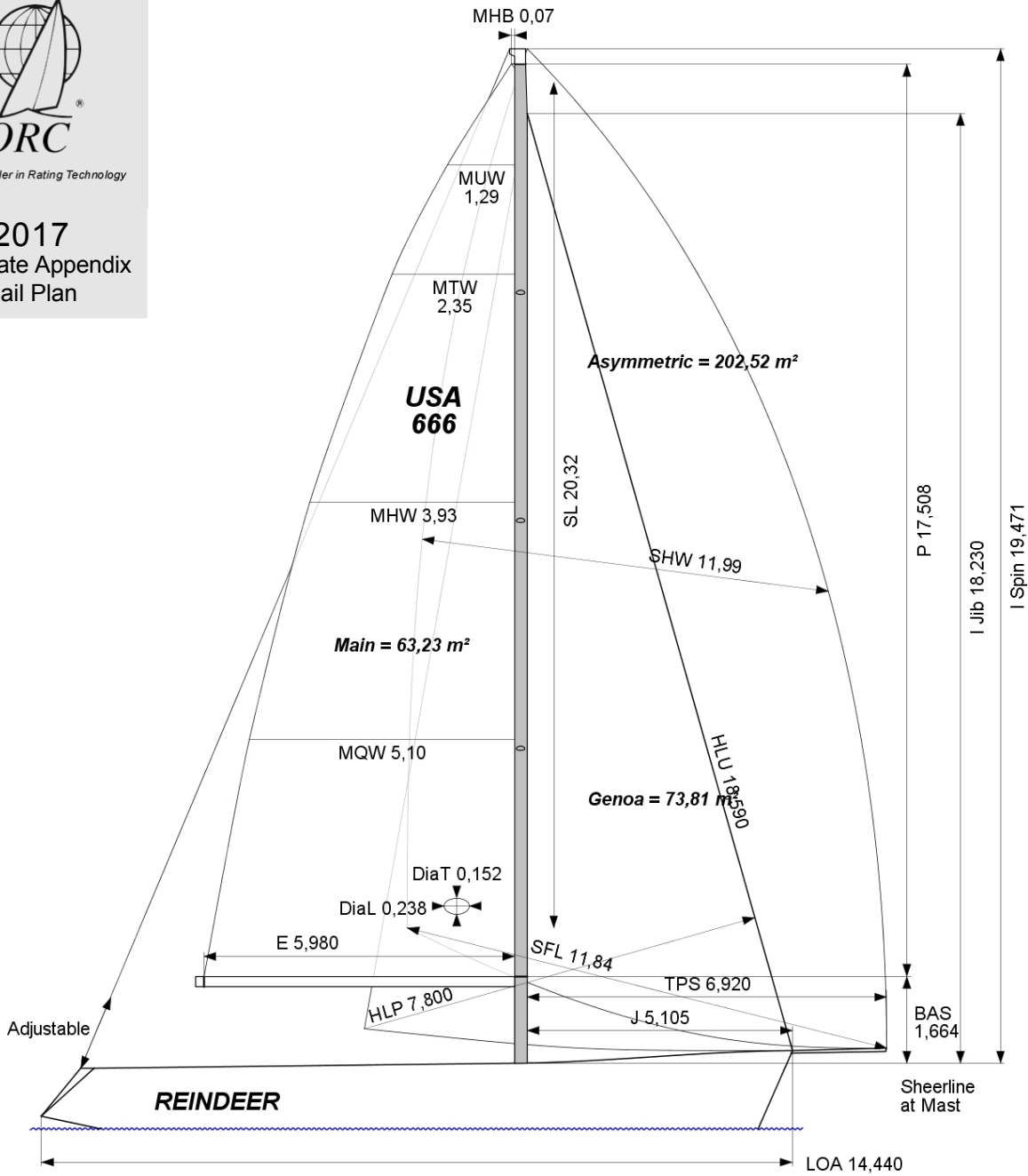


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Sail Plan



SAILS INVENTORY																
MAINSAIL (1)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
1	0.070	1.29	2.35	3.93	5.10	63.23				Unknown						
HEADSAILS (1)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1						7.80	18.59	153%	73.82							Unknow
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				
1	22.04	18.60	20.32	11.99	11.84	202.52	asym				Unknown					