

DESIGN 190
for PETER BLAKE

8 Aug 1988

TRUE WIND SPEED	TRUE WIND ANGLE	APP. WIND SPEED	APP. WIND ANGLE	BOAT SPEED	VELOCITY MADE GOOD	HEEL ANGLE	LEEWAY ANGLE	FLAT COEFF.	REEF COEFF.
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1.0 knots

	36.0	2.4	16.0	1.398	1.131	.4	2.3	1.00	1.00
	44.0	2.0	22.4	1.017	.732	.3	3.4	1.00	1.00
Opt Tack	47.8	2.0	23.8	1.102	.740	.3	3.1	1.00	1.00
	52.0	2.1	25.2	1.184	.730	.3	2.8	1.00	1.00
	60.0	2.1	27.8	1.318	.659	.3	2.3	1.00	1.00
	70.0	2.1	30.9	1.432	.490	.3	2.0	1.00	1.00
	80.0	2.0	34.4	1.490	.259	.3	1.7	1.00	1.00
	90.0	1.9	38.4	1.484	0.000	.3	1.4	1.00	1.00
	103.9			Genoa /	Spinnaker v				
	105.0	1.5	46.5	1.379	-.357	.2	1.0	1.00	1.00
	120.0	1.2	53.9	1.333	-.666	.1	.9	1.00	1.00
Opt Gybe	134.0	.9	67.2	1.171	-.814	.1	.7	1.00	1.00
	135.0	.9	68.8	1.150	-.813	.1	.7	1.00	1.00
	150.0	.6	106.2	.827	-.717	0.0	.3	1.00	1.00
	165.0	.5	145.6	.665	-.642	0.0	.2	1.00	1.00
	180.0	.5	179.8	.599	-.599	0.0	.2	1.00	1.00

3.0 knots

	36.0	5.5	17.2	2.396	1.938	1.8	4.6	1.00	1.00
	44.0	6.0	22.5	3.022	2.174	2.1	3.4	1.00	1.00
Opt Tack	48.0	6.1	23.9	3.288	2.201	2.2	3.1	1.00	1.00
	52.0	6.2	25.3	3.531	2.174	2.3	2.8	1.00	1.00
	60.0	6.3	27.8	3.931	1.966	2.4	2.4	1.00	1.00
	70.0	6.3	31.0	4.282	1.464	2.3	2.0	1.00	1.00
	80.0	6.1	34.4	4.459	.774	2.2	1.7	1.00	1.00
	90.0	5.6	38.4	4.451	0.000	1.9	1.4	1.00	1.00
	103.8			Genoa /	Spinnaker v				
	105.0	4.6	46.6	4.132	-1.069	1.4	1.0	1.00	1.00
	120.0	3.7	54.0	3.993	-1.997	1.1	.9	1.00	1.00
Opt Gybe	133.9	2.7	67.2	3.510	-2.433	.7	.7	1.00	1.00
	135.0	2.6	69.1	3.436	-2.430	.7	.7	1.00	1.00
	150.0	1.8	106.6	2.468	-2.137	.1	.3	1.00	1.00
	165.0	1.6	145.7	1.987	-1.920	.1	.2	1.00	1.00
	180.0	1.6	179.8	1.790	-1.790	0.0	.2	1.00	1.00

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6.0 knots

	36.0	10.9	19.1	4.679	3.785	6.8	4.7	1.00	1.00
	44.0	11.7	22.5	5.596	4.241	8.5	3.5	1.00	1.00
Opt Tack	47.8	12.0	23.8	6.381	4.290	9.1	3.2	1.00	1.00
	52.0	12.2	25.3	6.871	4.230	9.6	2.8	1.00	1.00
	60.0	12.4	27.9	7.625	3.813	10.1	2.4	1.00	1.00
	70.0	12.3	31.4	8.222	2.912	9.7	2.0	1.00	1.00
	80.0	11.7	35.2	8.506	1.477	8.5	1.7	1.00	1.00
	90.0	10.9	39.4	8.526	0.000	6.9	1.4	1.00	1.00
	103.2			Bermuda / Spinnaker v					
	105.0	9.1	47.0	9.146	-2.108	4.9	1.1	1.00	1.00
	120.0	7.4	54.2	7.943	-3.971	3.8	.9	1.00	1.00
Opt Gybe	134.1	5.4	67.3	7.013	-4.882	2.4	.7	1.00	1.00
	135.0	5.2	68.8	6.898	-4.878	2.2	.7	1.00	1.00
	150.0	3.5	106.4	4.953	-4.289	.6	.3	1.00	1.00
	165.0	3.1	145.7	3.977	-3.842	.2	.2	1.00	1.00
	180.0	3.2	179.8	3.580	-3.580	.2	.2	1.00	1.00

9.0 knots

	36.0	15.7	19.2	6.416	5.190	15.1	4.6	.89	1.00
	44.0	16.6	22.5	7.907	5.638	18.8	3.6	.94	1.00
Opt Tack	45.2	16.7	22.9	8.084	5.696	19.2	3.5	.94	1.00
	52.0	16.8	25.6	8.893	5.475	21.1	3.2	.99	1.00
	60.0	16.7	29.1	9.542	4.771	21.0	2.7	1.00	1.00
	70.0	16.2	33.9	10.013	3.425	19.2	2.3	1.00	1.00
	80.0	15.3	39.1	10.234	1.777	16.4	2.0	1.00	1.00
	90.0	14.3	44.7	10.278	0.000	13.3	1.6	1.00	1.00
	96.6			Bermuda / Spinnaker v					
	105.0	12.4	52.2	10.447	-2.704	12.7	1.4	1.00	1.00
	120.0	10.1	61.0	10.315	-5.157	9.2	1.2	1.00	1.00
	135.0	7.5	74.7	9.454	-6.685	3.9	.7	1.00	1.00
Opt Gybe	140.8	6.5	83.8	8.821	-6.840	2.7	.5	1.00	1.00
	150.0	5.3	106.3	7.431	-6.436	1.2	.3	1.00	1.00
	165.0	4.7	145.6	5.976	-5.772	.5	.2	1.00	1.00
	180.0	4.8	179.8	5.379	-5.379	.4	.2	1.00	1.00

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13.0 knots

	36.0	21.0	19.5	7.691	6.222	22.2	4.4	.68	1.00
Opt Tack	42.7	21.5	22.7	8.874	6.526	25.0	3.6	.71	1.00
	44.0	21.5	23.4	9.057	6.515	25.5	3.5	.71	1.00
	52.0	21.4	27.2	9.875	6.080	27.4	3.1	.77	1.00
	60.0	20.8	31.2	10.406	5.203	28.7	2.9	.84	1.00
	70.0	19.7	36.3	10.889	3.724	30.0	2.8	.98	1.00
	80.0	18.8	43.1	11.224	1.949	26.3	2.4	1.00	1.00
	90.0	17.6	49.6	11.502	0.000	24.2	2.2	1.00	1.00
	101.9			Genoa / Spinnaker v					
	105.0	15.1	59.1	11.828	-3.061	24.6	1.9	1.00	1.00
	120.0	13.0	71.7	11.743	-5.671	15.2	1.3	1.00	1.00
	135.0	10.4	87.9	11.051	-7.814	6.0	.7	1.00	1.00
Opt Gybe	149.3	8.0	111.1	9.864	-8.480	2.1	.3	1.00	1.00
	150.0	7.9	112.6	9.790	-8.479	2.0	.3	1.00	1.00
	165.0	6.8	146.1	8.528	-8.237	1.1	.2	1.00	1.00
	180.0	7.0	179.8	7.758	-7.758	.8	.2	1.00	1.00

20.0 knots

	36.0	29.0	20.8	8.384	6.783	25.1	4.6	.64	.84
Opt Tack	41.6	29.3	24.1	9.451	7.071	27.1	3.9	.70	.83
	44.0	29.2	25.5	9.775	7.031	27.8	3.7	.71	.83
	52.0	28.5	30.2	10.528	6.482	29.5	3.4	.80	.82
	60.0	27.7	35.1	11.062	5.531	30.5	3.2	.95	.80
	70.0	26.1	41.6	11.594	3.965	31.7	2.9	1.00	.84
	80.0	24.5	48.5	12.091	2.100	31.8	2.7	1.00	.85
	90.0	22.5	55.6	12.536	0.000	32.6	2.6	1.00	.85
	105.0	19.5	67.8	13.257	-3.431	32.9	2.2	1.00	.96
	106.8			Genoa / Spinnaker v					
	120.0	17.6	82.1	13.901	-6.951	26.0	1.5	1.00	1.00
	135.0	15.8	100.2	13.344	-9.436	12.0	.8	1.00	1.00
	150.0	13.6	123.9	12.047	-10.433	4.4	.5	1.00	1.00
	165.0	12.1	150.8	11.279	-10.895	2.8	.3	1.00	1.00
Opt Gybe	167.6	12.0	155.8	11.165	-10.905	2.6	.3	1.00	1.00
	180.0	11.9	179.7	10.710	-10.710	2.1	.3	1.00	1.00

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30.0 knots

	36.0	39.6	21.7	8.378	6.778	26.2	5.5	.67	.67
Opt Tack	42.2	39.7	26.1	9.828	7.278	28.9	4.4	.75	.66
	44.0	39.6	27.2	10.082	7.253	29.7	4.2	.77	.66
	52.0	38.6	32.7	10.913	6.719	31.3	3.8	.88	.65
	60.0	37.2	38.4	11.520	5.760	32.4	3.5	1.00	.65
	70.0	35.3	46.1	12.205	4.174	32.9	3.1	1.00	.67
	80.0	32.9	53.9	12.848	2.231	33.9	3.0	1.00	.65
	90.0	30.7	62.5	13.566	0.000	34.0	2.7	1.00	.68
	91.7			Genoa / Spinnaker v					
	105.0	27.1	76.0	15.029	-3.890	34.6	1.9	1.00	.77
	120.0	23.3	89.4	17.048	-8.524	35.5	1.3	1.00	.94
	135.0	22.2	104.4	18.423	-13.027	24.5	.8	1.00	1.00
	150.0	21.1	128.3	16.187	-14.018	12.9	.6	1.00	1.00
Opt Gybe	161.0	20.2	146.8	15.081	-14.257	9.3	.5	1.00	1.00
	165.0	20.0	153.8	14.725	-14.223	8.1	.5	1.00	1.00
	180.0	20.2	179.5	13.695	-13.695	6.1	.5	1.00	1.00

40.0 knots

	36.0	49.1	20.7	6.860	5.550	25.4	8.7	.67	.56
Opt Tack	44.0	49.6	28.0	9.980	7.179	31.1	4.9	.80	.55
	44.0	49.5	28.0	9.981	7.179	31.1	4.9	.80	.55
	52.0	48.2	33.9	10.984	6.763	33.0	4.2	.92	.54
	60.0	46.4	40.1	11.698	5.849	34.1	3.8	1.00	.55
	70.0	43.8	48.2	12.526	4.284	35.2	3.5	1.00	.55
	80.0	41.2	57.1	13.333	2.315	35.4	3.2	1.00	.54
	81.4			Genoa / Spinnaker v					
	90.0	38.7	66.6	14.448	0.000	35.5	2.4	1.00	.57
	105.0	34.7	80.4	16.852	-4.362	36.4	1.7	1.00	.67
	120.0	30.4	93.5	20.286	-10.143	37.3	1.0	1.00	.81
	135.0	26.2	106.3	24.122	-17.057	35.9	.6	1.00	1.00
	150.0	26.1	127.1	23.110	-20.014	22.0	.5	1.00	1.00
Opt Gybe	158.3	25.6	141.5	21.698	-20.157	18.1	.4	1.00	1.00
	165.0	25.5	153.4	20.616	-19.914	15.1	.4	1.00	1.00
	180.0	26.7	179.8	18.516	-18.516	5.1	.2	.50	1.00

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