

SPONBERG YACHT DESIGN INC.  
50 OCEAN COURT  
ST. AUGUSTINE, FL 32080  
TEL: (904) 460-9494  
FAX: (904) 460-9355

DATE: 17-Oct-15  
TIME: 5:43:34 PM  
FILE: HENDRICKSON 28 HYDRO & STABILITY.xls

# HYDROSTATICS

## HENDRICKSON 28 PACIFIC ROWBOAT

### REVISED: 2 OCT 15

Dimensions			Options		
Length Overall	ft	28.0000	Hog Distance	ft	0.0000
Length on Waterline	ft	28.0000	Wave Type	None	
Length Between Perpendiculars	ft	28.0000	Wave Start	ft	0.0000
Distance to Amidships	ft	14.0000	Wave Height	ft	0.0000
Beam	ft	5.0000	Wave Length	ft	0.0000
Depth	ft	5.5000	Water Density	lbs/cu.ft.	64.0000
Draft, with keel	ft	1.0000			
Trim	ft	0.0000			
HYDROSTATICS					
Input Parameters					
LOAD CONDITION		At DWL	Dry Lightship	Departure Full Load	Arrival 1/10th Load
BL-WL (Draft at amidships) above baseline	ft	1.0000	0.9563	1.2370	1.0710
Trim (FP - AP)	ft	0.0000	-0.0059	-0.1587	-0.0677
Heel	Deg	0.0000	0.0000	0.0000	0.0000
Vertical Center of Gravity above baseline	ft	2.0833	1.9912	1.7946	1.9170
Volumetric Properties					
Draft	ft	1.0000	0.9563	1.2370	1.0710
Volume	ft^3	39.5420	36.3120	58.9480	45.1090
Displacement	lb	2,530.6800	2,323.9530	3,772.6770	2,886.9510
Wetted Surface	ft^2	136.5080	132.8560	153.3850	142.0340
LCB (from FP)	ft	15.1483	15.2234	15.2087	15.2097
TCB (from centerline)	ft	0.0000	0.0000	0.0000	0.0000
VCB (from baseline)	ft	0.5495	0.5115	0.7389	0.6097
Keel Draft	ft	2.5000	2.4588	2.8050	2.6000
Waterplane Properties					
Draft	ft	1.0000	0.9563	1.2370	1.0710
Area	ft^2	75.1360	72.3610	85.6100	79.0360
LCF	ft	14.4623	14.4941	14.5005	14.5186
TCF (from centerline)	ft	0.0000	0.0000	0.0000	0.0000
VCF (from baseline)	ft	1.0000	0.9564	1.2398	1.0722
Moment to Trim One Inch	ft-lb	510.3699	485.1251	614.3759	548.7656
Pounds Per Inch Immersion	lb/in	400.7234	385.9257	456.5853	421.5248
Change in Displ per Inch Trim Aft	lb/in	7.1140	7.3567	8.5569	8.3321
II (Long'l Inertial about LCF)	ft^4	2,552.8713	2,411.3836	3,138.3592	2,758.5847
It (Transverse Inertia about TCF)	ft^4	85.3770	78.0097	115.7024	96.3515
Length on the Waterline	ft	26.0436	25.9194	26.7036	26.2370
Maximum Beam at Waterline	ft	4.3751	4.2783	4.7347	4.5139
Metacentric Heights					
Draft	ft	1.0000	0.9563	1.2370	1.0710
Longitudinal KM	ft	65.1107	66.9193	53.9783	61.7640
Longitudinal GM	ft	63.0274	64.9281	52.1837	59.8470
Transverse KM	ft	2.7086	2.6599	2.7017	2.7457
Transverse GM	ft	0.6253	0.6687	0.9071	0.8287
Form Coefficients					
Draft	ft	1.0000	0.9563	1.2370	1.0710
LWL/BWL		5.9526	6.0584	5.6400	5.8124
LWL/Draft		10.4174	10.5414	9.5200	10.0913
BWL/Draft		1.7501	1.7400	1.6879	1.7362
Cb (block)		0.1388	0.1332	0.1662	0.1465
Cm (midship)		0.2401	0.2318	0.2832	0.2525
Cp (prismatic)		0.5782	0.5745	0.5870	0.5802
Cvp (vertical prismatic)		0.2105	0.2041	0.2455	0.2195
Cwp (waterplane)		0.6594	0.6525	0.6771	0.6674