

Project : RG65RangerRK3-1
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Comment : 27Oct20011
Filename : C:\Users\Roland\Desktop\RG65RangerRK3-final_gerade.fbm

Design length : 6.500 m
Length over all : 6.500 m
Design beam : 1.140 m
Beam over all : 1.108 m
Design draft : 0.399 m
Midship location : 3.250 m
Water density : 1.000 t/m^3
Appendage coefficient : 1.0000

Volume properties:

Displaced volume : 0.946 m^3
Displacement : 0.946 tonnes
Total length of submerged body : 6.462 m
Total beam of submerged body : 0.893 m
Block coefficient : 0.4108
Prismatic coefficient : 0.5374
Vert. prismatic coefficient : 0.5958
Wetted surface area : 5.966 m^2
Longitudinal center of buoyancy : 3.053 m
Longitudinal center of buoyancy : -2.962 %
Transverse center of buoyancy : 0.000 m
Vertical center of buoyancy : 0.252 m

Midship properties:

Midship section area : 0.272 m^2
Midship coefficient : 0.7646

Waterplane properties:

Length on waterline : 6.462 m
Beam on waterline : 0.893 m
Waterplane area : 3.979 m^2
Waterplane coefficient : 0.6896
Waterplane center of floatation : 3.018 m
Y coordinate of DWL area CoG : 0.000 m
Half entrance angle of DWL : 17.437 degr
Transverse moment of inertia : 0.178 m^4
Longitudinal moment of inertia : 9.082 m^4

Initial stability:

Vertical of transverse metacenter : 0.440 m
Transverse metacentric radius : 0.188 m
Longitudinal transverse metacenter : 9.852 m
Longitudinal metacentric radius : 9.601 m

Lateral plane:

Lateral area : 1.678 m^2
Longitudinal center of effort : 3.175 m
Vertical center of effort : 0.241 m

Hull characteristics above waterline:

Lateral wind area : 2.961 m^2
Z coordinate of wind area CoG above DWL : 0.246 m
Distance from bow to wind area CoG : 2.747 m

The following layer properties are calculated for both sides of the ship:

Layer	Area m^2	Thickness mm	Weight tonnes	COG X m	COG Y m	COG Z m
Layer 0	6.586	0.000	0.000	3.668	0.000	0.615
Layer 2	0.117	0.000	0.000	0.000	0.000	0.577
Layer 3	0.078	0.000	0.000	6.500	0.000	0.831
Layer 4	5.345	0.000	0.000	3.060	0.000	0.829
Layer 5	1.980	0.000	0.000	2.964	0.000	0.110
Layer 6	3.572	0.000	0.000	3.198	0.000	0.240
Total	17.679		0.000	0.000	0.000	0.000

Attention: Weight of a ship and displacement are difference more then 10% !

Sectional areas:

Location m	Area m^2
0.014	0.000
0.650	0.053
1.300	0.138
1.950	0.220
2.600	0.271
3.250	0.272
3.900	0.227
4.550	0.159
5.200	0.086
5.850	0.026
6.475	0.000

NOTE 1: Draft (and all other vertical heights) is measured above the lowest point of the hull! (Z= 0.000)

NOTE 2: All calculated coefficients based on actual dimensions of submerged body.

Note 3: The bulb characteristics is calcs right, if F.P. is through point of intersection forward line with DWL.