

Fig. 1 Body plans of tentative and final parent models

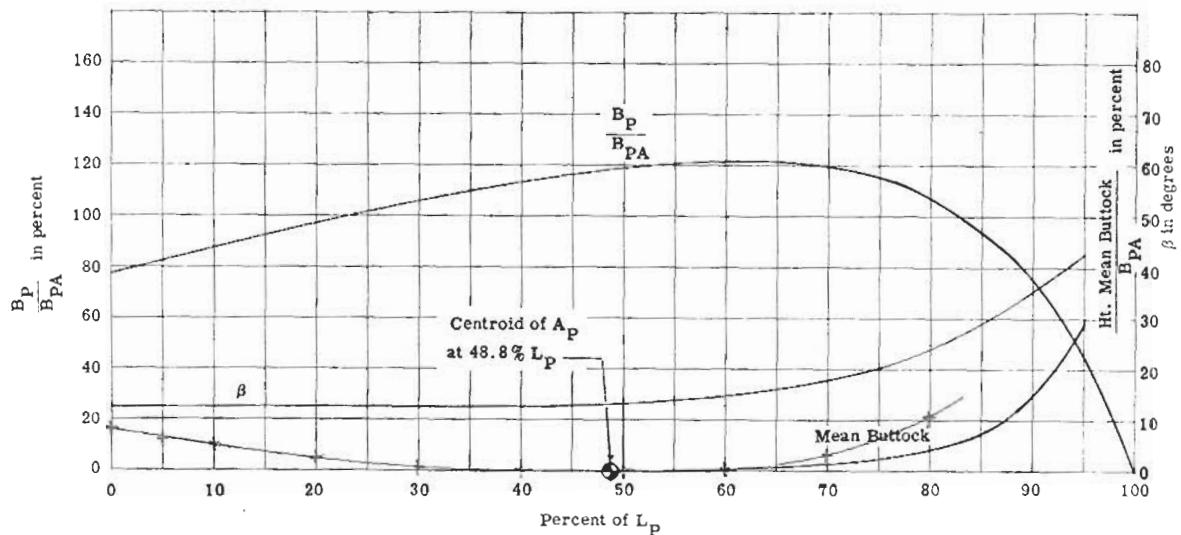


Fig. 2 Form characteristics curves for parent model

Table 1 Particulars of the Models of DTMB Series No. 62

Particulars	4665	4666	Model 4667-1	4668	4669
A_P , ft ²	6.469	9.715	12.800	9.518	7.479
L_P , ft.....	3.912	5.987	8.000	8.000	8.000
B_{PA} , ft.....	1.654	1.623	1.600	1.190	0.935
B_{PX} , ft.....	1.956	1.956	1.956	1.455	1.143
B_{PT} , ft.....	1.565	1.386	1.250	0.934	0.734
L_P/B_{PA}	2.365	3.69	5.00	6.72	8.56
L_P/B_{PX}	2.00	3.06	4.09	5.50	7.00
B_{PX}/B_{PA}	1.18	1.21	1.22	1.22	1.22
B_{PT}/B_{PX}	0.80	0.71	0.64	0.64	0.64
Centroid of A_P , % L_P fwd of transom	47.5	48.2	48.8	48.8	48.8
Angle of a-b chine in plan view, deg	5.0	5.0	5.0	3.7	2.9
Half-angle of waterline entrance, deg	58	49	46	39	37

pressed by the dimensionless ratio $A_P/\nabla^{2/3}$, where A_P is the projected planing bottom area and ∇ is the volume of water displaced at rest. As pointed out in [3], if hulls with different length-beam ratios are compared on the basis of equal $A_P/\nabla^{2/3}$, then the comparison will be on the sound basis of very nearly equal values of hull area, hull volume, and hull structural weight. Longitudinal CG location is defined as the distance of the LCG from the centroid of the area A_P , expressed as a percentage of the length L_P .

The present series was planned so as to explore in a systematic way the effects of a wide variation in the three variables just mentioned. This can be done relatively economically when compared with the method used for systematic investigations of displacement-hull forms. This is possible

because it is feasible to explore the effects of variation of loading and LCG location with a single model. Thus, different models are required only for exploration of the effect of length-beam ratio.

Five models, Models 4665, 4666, 4667-1, 4668, and 4669, were tested to explore the influence of length-beam ratio. They are shown in plan view in Fig. 3. Additional particulars of the models are given in Table 1. As can be seen, the values of length-beam ratio tested in the series correspond to values of L_P/B_{PX} of 2, 3.06, 4.09, 5.5 and 7. The extreme models are outside the generally accepted range of boat proportions, but one of the purposes of systematic-series work is to explore new and unfamiliar ground. The body plans for the five models are identical except for some slight