

T.O. restoration

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name RICHMOND HILL	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey
Moulded Dimensions: Length 415.54 Breadth 60.16 Depth 28.75 to E of rudder stock					Date of Survey 26.9.47
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12521 tons					Surveyor's Signature
Coefficient of fineness for use with Tables .717					Particulars of Classification +100A1 w. fad

DEPTH FOR FREEBOARD (D). Moulded depth ... 28.75 Stringer plate4404 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ - Depth for Freeboard (D) = 28.79	DEPTH CORRECTION. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(28.79 - 27.70) \times 3.0 = +3.27$ (b) Where D is less than Table depth (if allowed) (Table depth - D) R = - If restricted by superstructures -	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 60.16 Standard Round of Beam = $\frac{B \times 12}{50} =$ 14.44 Ship's Round of Beam = 6 Difference 8.44 Restricted to - Correction = $\frac{\text{Diff}^\circ}{4} \times \left(1 - \frac{S}{L}\right) =$ $\frac{8.44}{4} \times .0055 = +.01$
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DEDUCTION FOR SUPERSTRUCTURES.						Standard Height of Superstructure 7.5'
	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	" " R.Q.D. -
Poop enclosed ...	40.665	40.665			40.665	Deduction for complete superstructure 42.00
" overhang ...						Percentage covered $\frac{S}{L} =$ 100.00
R.Q.D. enclosed ...						" $\frac{S_1}{L} =$ 99.45
" overhang ...						" $\frac{E}{L} =$ 99.45
Bridge enclosed ...	370.375	370.375	9.5		370.375	Percentage from Table, Line A. -
" overhang aft ...			4mm			(corrected for absence of forecastle (if required)) -
" overhang forward ...						Percentage from Table, Line B. 99.32
F'cle enclosed ...						(corrected for absence of forecastle (if required)) -
" overhang ...						Interpolation for bridge less than .2L (if required) -
Trunk aft ...						Deduction = 42.00 x .9932 = -41.71"
" forward ...						
Tonnage opening aft ...	4.50	2.25			2.25	
" " forward ...						
Total ...	415.540	413.290			413.290	

SHEER CORRECTION.								Actual ton deck height = 9.5 Standard " " = 7.5 2.0'		
Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual shear aft = 21
A.P. ...	51.55	1		51.55	72.00	96.00	1		96.00	Mean actual shear forward = 31
$\frac{1}{8}$ L from A.P. ...	22.94	4		91.76	31.00	42.72	4		170.88	Length of enclosed superstructure forward of amidships = 36.96
$\frac{3}{8}$ L " ...	5.67	2		11.34	5.75	10.56	2		21.12	" aft of " = 36.96
Amidships ...	-	4		-	-	-	4		-	
$\frac{5}{8}$ L from F.P. ...	11.34	2		22.68	10.25	18.48	2		36.96	
$\frac{7}{8}$ L " ...	45.88	4		183.52	63.75	74.76	4		299.04	
F.P. ...	103.11	1		103.11	144	168	1		168.00	
Total ...				463.96	+24				792.00	
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ $\frac{328.04}{18} (.75 - .50) =$ -4.56" If limited on account of midship superstructure.										If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 28.79 Summer freeboard = 3.96 Moulded draught (d) = 24.83 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.21 = 6 1/4 Addition for Winter North Atlantic Freeboard (if required) = -	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line T = Deduction = $\frac{\Delta}{40 T}$ inches = 6 1/2	TABULAR FREEBOARD corrected for Fresh Deck (if required) Correction for coefficient 1.36 Depth Correction ... 3.27 Deduction for superstructures ... 41.71 Sheer correction01 Round of Beam correction ... 4.56 Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... 3.28 46.27 -42.99 Summer Freeboard = 35.45
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-					
Tropical Fresh Water Line above Centre of Disc	...	12 3/4	Tropical Fresh Water Freeboard	...	2' - 10 3/4"
Fresh Water Line " "	...	6 1/2	Fresh Water " "	...	3' - 5 1/4"
Tropical Line " "	...	6 1/4	Tropical " "	...	3' - 5 1/4"
Winter Line below " "	...	6 1/4	Winter " "	...	4' - 5 3/4"
Winter North Atlantic Line " "	...	-	Winter North Atlantic " "	...	-