

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

17 MAY 1932

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
having Combined Poop & Bridge, and Forecastle

Port of Survey Aberdeen

Date of Survey 13th May 1932.

Name of Surveyor N. L. Swinton

Ship's Name "ST. MAGNUS" Nationality and Port of Registry British Aberdeen Official Number 144819 Gross Tonnage 1529 Date of Build 1924-7

Moulded Dimensions: Length 210.33' Breadth 36' Depth 18.04'

Moulded displacement at moulded draught = 85 per cent. of moulded depth 2270 tons

Coefficient of fineness for use with Tables .625

Particulars of Classification + 100AL

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>18.04'</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(18.09 - 16.02) 1.848 = + 3.82</u>	Moulded Breadth (B) <u>36.0'</u>
Stringer plate <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>2.07</u>	Standard Round of Beam = $\frac{B \times 12}{50} = \underline{8.64}$
Sheathing on exposed deck T $\left(\frac{L-S}{L}\right) = \underline{.33 \times .057} = \underline{.02}$	If restricted by superstructures	Ship's Round of Beam = <u>9"</u>
Depth for Freeboard (D) = <u>18.09</u>		Difference <u>Even</u>
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.36}{4} (1 - .6372) = \underline{-.03}$

DEDUCTION FOR SUPERSTRUCTURES.

Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	Standard Height of Superstructure
Poop enclosed <u>55.58'</u>	<u>55.58</u>	<u>7.98</u>		<u>55.58</u>	<u>6.0</u>
" overhang					R.Q.D.
R.Q.D. enclosed					Deduction for complete superstructure <u>30.033</u>
" overhang <u>102.25</u>	<u>51.12</u>	<u>7.98</u>		<u>51.12</u>	Percentage covered $\frac{S}{L} = \underline{94.30}$
Bridge enclosed					" $\frac{S_1}{L} = \underline{63.72}$
" overhang aft					" $\frac{E}{L} = \underline{63.72}$
" overhang forward					Percentage from Table, Line A. <u>52.32</u>
Fore enclosed <u>68.83</u>	<u>46.43</u>	<u>7.98</u>		<u>46.43</u>	(corrected for absence of forecastle (if required))
" overhang					Percentage from Table, Line B.
Trunk aft					(corrected for absence of forecastle (if required))
" forward					Interpolation for bridge less than .2L (if required)
Tonnage opening aft					Deduction = <u>.5232 \times 30.03 = - 15.71</u>
" forward					
Total <u>226.66</u>	<u>153.13</u>			<u>153.13</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual shear aft
A.P.	<u>34.03</u>	1		<u>34.03</u>	<u>36.0</u>	<u>36.0</u>	1		<u>36.00</u>	Mean standard shear aft
$\frac{1}{4}$ L from A.P.	<u>15.14</u>	4		<u>60.56</u>	<u>16</u>	<u>15.80</u>	4		<u>63.20</u>	Mean actual shear forward
$\frac{3}{4}$ L "	<u>3.74</u>	2		<u>7.48</u>	<u>4</u>	<u>3.95</u>	2		<u>7.90</u>	Mean standard shear forward
Amidships		4					4			Length of enclosed superstructure forward of amidships = <u>open bridge</u>
$\frac{3}{4}$ L from F.P.	<u>7.49</u>	2		<u>14.98</u>	<u>9</u>	<u>8.29</u>	2		<u>16.58</u>	" aft of " =
$\frac{1}{4}$ L "	<u>30.28</u>	4		<u>121.12</u>	<u>33</u>	<u>33.18</u>	4		<u>132.72</u>	
F.P.	<u>68.06</u>	1		<u>68.06</u>	<u>72</u>	<u>72.0</u>	1		<u>72.00</u>	
Total				<u>306.23</u>					<u>328.40</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{22.17}{18} (.75 - .4715) = \underline{-.34}$

If limited on account of midship superstructure. NIL

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Fresh Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient <u>nil (.625)</u>
Depth to Freeboard Deck = <u>18.40</u>	$\Delta = \underline{2623}$	Depth Correction <u>3.82</u>
Summer freeboard = <u>7.85</u>	Tons per inch immersion at summer load water line	Deduction for superstructures <u>15.71</u>
Moulded draught (d) = <u>16.55</u>	T = <u>6.40</u>	Sheer correction <u>.03</u>
Deduction for Tropical freeboard and addition for Winter and Winter North Atlantic Freeboard (if required) = <u>4.14</u>	Deduction = $\frac{\Delta}{40T}$ inches = <u>4.00</u>	Round of Beam correction <u>.03</u>
	<u>$\frac{1}{4} = 4\frac{1}{4}$</u>	Correction for Thickness of Deck amidships <u>3.76</u>
		Other corrections, scantlings, etc. <u>.03</u>
		7.58 15.74 - 8.16
		Summer Freeboard = <u>22.21</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc	Fresh Water Line	Tropical Line	Winter Line	Winter North Atlantic Line	Tropical Fresh Water Freeboard	Fresh Water	Tropical	Winter	Winter North Atlantic
<u>8$\frac{1}{2}$ 8$\frac{1}{2}$</u>	<u>4$\frac{1}{4}$ 4$\frac{1}{4}$</u>	<u>4$\frac{1}{4}$ 4$\frac{1}{4}$</u>	<u>4$\frac{1}{4}$ 4$\frac{1}{4}$</u>	<u>6$\frac{1}{4}$ 6$\frac{1}{4}$</u>	<u>1 - 10$\frac{1}{4}$</u>	<u>1 - 6$\frac{1}{4}$</u>	<u>1 - 6$\frac{1}{4}$</u>	<u>2 - 6$\frac{1}{4}$</u>	<u>2 - 6$\frac{1}{4}$</u>

RECEIVED

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	N. 1.	N. 2.	N. 3.	BUNKER ON UPPER BRIDGE					
Dimensions of Hatchway	5' 9" x 6' 0"	9' 7" x 10'	9' 7" x 10'	2' 11" x 5' 10"					
COAMINGS	Height above Deck	24"	18"	18"					
	Thickness	44	44	44					
	Stiffeners	44	44	44					
	Brackets, Stays	NONE	NONE	NONE					
HATCH BEAMS	Number	NONE	NONE	NONE					
	Spacing	NONE	NONE	NONE					
	Scantling and Sketch	NONE	NONE	NONE					
	Bearing Surface								
FORE AND AFTERS	Number	NONE	ONE	ONE					
	Spacing	NONE	5' 0"	5' 0"					
	Unsupported Lengths	NONE	9' 1"	9' 1"					
	Scantling* and Sketch	NONE	3" x 9"	3" x 9"					
HATCH COVERS	Material	W.P.	W.P.	W.P.					
	Thickness	22	22	22					
	How fitted	L.A.P.	ATHW.	ATHW.					
	Bearing Surface	3	3	3					
Spacing of Cleats	20"	19	19	31					
Number of Tarpaulins	2	2	2	2					

*Are wood fore and afters steel shod at all bearing surfaces? *Yes.*
 Are battens and wedges efficient and in good condition? *Yes.*
 Are tarpaulins in good condition and in accordance with rule requirements? *Yes.*
 Are lashings provided in accordance with rule requirements? *None provided.*

Particulars of fiddle, funnel and ventilator coamings:—

*Stokehold gratings covered by strong steel hinged covers.
 Fiddle funnel & ventilator in efficient condition.
 Engine skylight of teak strongly constructed.*

Particulars of Flush Bunker Scuttles:—

*Two scuttles on bridge deck of cast steel fitted with bayonet joints.
 No chain attachment provided.
 Steel trunk fitted between upper & bridge decks.*

Particulars of Companionways:—

*1 steel companion under file dk. 9' 6" x 2' 6" on freeboard leading to crew space below. Door 5' 0" x 2' 0", 1 1/2" teak panelled, 12" sill. Door Manip. both sides.
 1 steel companion under file dk. 6' 6" x 3' 0" on freeboard leading to 2nd class ladies accommodation below. Door 5' 0" x 2' 0", 1 1/2" teak panelled, 12" sill. Door Manip. both sides.
 Entrance to accommodation in bridge & poop, from strong steel deckhouses on bridge & poop decks. Doors 5' 0" x 2' 3", 1 1/2" teak panelled, 12" sill. Door Manip. both sides.
 1 steel companion on file dk. 5' 0" x 3' 3" x 6' 6" high, leading to open file. Opening 5' 0" x 2' 9". No door fitted. Strong teak door.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

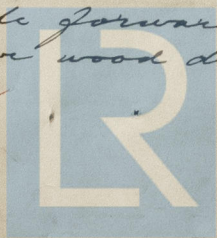
*(Supported)
 1 on file dk. 6" dia. Cam. 48 x 30 to peak store.
 1 " " 6 " " 33 x 25 to file.
 2 " " 15 " " 36 x 36 to 2nd class.
 2 " " 12 " " 36 x 32 " "
 1 " " 20 " " 36 x 40 to hold.
 2 " " 18 " " 36 x 38 " "
 8 on bridge dk. 18" dia. Cam. 28 x 38 to cargo sp.
 1 " " 12 " " 30 x 32 " "
 1 " " 12 " " 28 x 32 to aft. store.
 All vents. constructed in accordance with the Rules, & coamings closed with wood plugs & canvas covers.
 Heights given are above wood deck.*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

Air pipes to D.B. tanks are flush with wood deck & fitted with hinged cover.

Particulars of Gangway Cargo and Coaling Ports:—

Cargo door, hinged in 2 parts fitted on stand side forward with height of bulwark, & 9' 6" wide. Sill 6" above wood dk. strongly constructed & efficiently secured.



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 Lloyd's Register
 Foundation

Name of Ship *SI. MAGNUS*

Freeboard Report Examined

(Date) *7th 1957*

Signed *[Signature]*

AT 0238 2/3

Particulars of Scuppers and Sanitary Discharge Pipes —

Sanitary discharges from officers, crew, & passenger lavatories, fitted with storm valve at ship's side & efficient trap at inner end.

Particulars of Side Scuttles:

Side scuttles in open side 10" dia. fitted with hinged deadlights
Side scuttles in crew space below great deck 9" dia. do. do. 24" below deck to side
Side scuttles in 2nd class acc. " " " " " " do. do. 25" " "
Side scuttles in bridge " 10" dia. no deadlights provided.
all scuttles & deadlights of substantial construction.

Particulars of Guard Rails:—

Guard rails on Poop & Side 3'6" high 4 rods & 7/8" x 2 1/2" teak rail. Stanch. 4'0" apart.
Steel bulwark at fore end of side & on bridge amidships 3'6" high strongly constructed & efficiently supported.
Steel bulwark on S.S. fore well full height of superstructure, efficiently supported.

Particulars of Gangways, Lifelines, etc.:—

Continuous deck on port side between bridge & side forming gangway.

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well						
Forward Well	13'8"	7'11 1/2"	2'0" x 1'3"	2.	5 sq. ft.	7.9
State position of each freeing port { After Well:— (F. and A. position and height above deck edge) Forward Well:— 3'3", 8'0", FROM BRIDGE FRONT BHD. 9" ABOVE WOOD DK. State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Fitted with hinged shutters. Openings protected by 2 rods. ✓ Additional area where sheer is less than standard.						

Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	26	32	4 1/2 x 3 x 32	30"	BRACKETS TOP & BOTTOM	10'6" x 27" 10'6" x 42"	3" 3"	
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead	—	30	4 x 3 x 30	27" & 30"	NONE	NONE.		
Forecastle Bulkhead	Note: Bridge front B.H. bolted together & can be entirely removed when desired.							
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks	15 x 32	25	3 x 2 1/2 x 30	30"	BRACKETS AT TOP	5'0" x 24"	12"	7'3"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	32	30	3 x 2 1/2 x 30	30	NONE.	5'0" x 24"	12"	7'11 1/2"
Deckhouses on Flush Deck Ships ...								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	} Openings closed with hinged steel plates when not carrying passengers in Bridge space. Plates secured by 3/4" bolts spaced 1 1/2" apart.	
Raised Quarter Deck Bulkhead ...		
Bridge, After Bulkhead		
Bridge, Forward Bulkhead		Bulkhead portable, see note above.
Forecastle Bulkhead	Open.	
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	} Steel hinged doors, Manipulated from both sides.	
Exposed Machinery Casings on Superstructure Decks		
Machinery Casings within Superstructures not fitted with Class I Closing Appliances		
Flush Deck Ships		Steel hinged doors, Manip. from both sides, used only when not carrying passengers in bridge space.

