

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.Index. No. 34988
(For London Office only.)
18 JUL 1936

No 31863

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Raised quarter deck and forecastle

SPANKER

HIGHWOOD (Type of Superstructures.)

Ship's Name "SPRINGWOOD" Nationality and Port of Registry British London Official Number 164679 Gross Tonnage 1177 Date of Build 1936

Moulded Dimensions: Length 220.0 Breadth 36.0 Depth 16.0 1197 per 1107 lb std. 22-35k

Moulded displacement at moulded draught = 85 per cent. of moulded depth 2,203 tons

Coefficient of fineness for use with Tables .716

Port of Survey Sunderland

Date of Survey Whilst building

Name of Surveyor Colin Bartlett

Particulars of Classification +100A1
Class contemplated

Depth for Freeboard (D)

Moulded depth 16.0

Stringer plate32"03

Sheathing on exposed deck

$T \left(\frac{L-S}{L} \right) =$ None

Depth for Freeboard (D) = 16.03

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R = (16.03-14.67) x 1.692 = +2.30

(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) 36.0

Standard Round of Beam = $\frac{B \times 12}{50} =$ 8.64

Ship's Round of Beam = 9.0"

Difference .36

Restricted to -

Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ $\frac{.36}{4} \times .2875 = -.03$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	✓				
" overhang	✓				
R.Q.D. enclosed ...	<u>135.48</u>	<u>135.48</u>	<u>4.00</u>	<u>-</u>	<u>135.48</u>
" overhang	✓				
Bridge enclosed ...	✓				
" overhang aft ...	✓				
" overhang forward	✓				
Fore enclosed <u>open</u>	<u>21.27</u>	<u>21.27</u>	<u>7.00</u>	<u>✓</u>	<u>21.27</u>
" overhang					
Trunk aft					
" forward					
Tonnage opening aft ...					
" " forward					
Total	<u>156.75</u>	<u>156.75</u>			<u>156.75</u>

Standard Height of Superstructure	<u>6.00</u>
" " R.Q.D.	<u>3.80</u>
Deduction for complete superstructure	<u>28.0</u>
Percentage covered $\frac{S}{L} =$	<u>71.25</u>
" " $\frac{S_1}{L} =$	<u>71.25</u>
" " $\frac{E}{L} =$	<u>71.25</u>
Percentage from Table, Line A.	<u>64.54</u>
(corrected for absence of forecastle (if required))	
Percentage from Table, Line B.	<u>-</u>
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction = $28 \times .6454 =$	<u>-18.07</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>32.00</u>	1		<u>32.00</u>	<u>36.00</u>	<u>38.40</u>	1		<u>38.40</u>
$\frac{1}{8}L$ from A.P. ...	<u>14.24</u>	4		<u>56.96</u>	<u>16.50</u>	<u>17.09</u>	4		<u>68.36</u>
$\frac{2}{8}L$ "	<u>3.52</u>	2		<u>7.04</u>	<u>4.50</u>	<u>4.22</u>	2		<u>8.44</u>
Amidships	<u>-</u>	4		<u>-</u>	<u>✓</u>	<u>-</u>	4		<u>-</u>
$\frac{2}{8}L$ from F.P. ...	<u>7.04</u>	2		<u>14.08</u>	<u>7.50</u>	<u>7.50</u>	2		<u>15.00</u>
$\frac{1}{8}L$ "	<u>28.48</u>	4		<u>113.92</u>	<u>30.00</u>	<u>30.00</u>	4		<u>120.00</u>
F.P.	<u>64.00</u>	1		<u>64.00</u>	<u>66.00</u>	<u>66.00</u>	1		<u>66.00</u>
Total				<u>288.00</u>					<u>316.20</u>

Mean actual sheer aft = <u>Even</u>	Mean standard sheer aft = <u>Even</u>
Mean actual sheer forward = <u>Even</u>	Mean standard sheer forward = <u>Even</u>
Length of enclosed superstructure forward of amidships = <u>>.1L</u>	" " aft of " = <u>>.1L</u>

Actual height of raised quarter deck = 4.00
Standard " = 3.80
Difference .20
= 2.40

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{28.20}{18} \left(.75 - \frac{.3563}{2} \right) = -.62$$

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 <u>R.Q.</u> <u>Freeboard</u> Deck =	<u>20.03</u>
Summer freeboard =	<u>4.92</u>
Moulded draught (d) =	<u>15.11</u>

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 3.77 = 3 $\frac{3}{4}$ Addition for Winter North Atlantic Freeboard (if required) = 5 $\frac{3}{4}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ 2480

Tons per inch immersion at summer load water line

 $T =$ 14.62Deduction = $\frac{\Delta}{40T}$ inches= 4.24= 4 $\frac{1}{4}$ TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<u>2.30</u>	<u>-</u>
Deduction for superstructures	<u>-</u>	<u>18.07</u>
Sheer correction	<u>-</u>	<u>0.62</u>
Round of Beam <u>height of raised quarter</u>	<u>-</u>	<u>0.03</u>
Correction for <u>Thickness</u> of Deck amidships	<u>48.00</u>	<u>-</u>
Other corrections, scantlings, etc.	<u>-</u>	<u>-</u>
	<u>50.30</u>	<u>18.72</u>

Summer Freeboard = 58.89SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: 4 $\frac{1}{2}$

Tropical Fresh Water Line above Centre of Disc ...	<u>8"</u>
Fresh Water Line " " ...	<u>4$\frac{1}{4}$"</u>
Tropical Line " " ...	<u>3$\frac{3}{4}$"</u>
Winter Line below " " ...	<u>3$\frac{3}{4}$"</u>
Winter North Atlantic Line " " ...	<u>5$\frac{3}{4}$"</u>

Tropical Fresh Water Freeboard ...	<u>4$\frac{1}{2}$</u>
Fresh Water " " ...	<u>4$\frac{1}{2}$</u>
Tropical " " ...	<u>4$\frac{1}{2}$</u>
Winter " " ...	<u>5$\frac{3}{4}$</u>
Winter North Atlantic " " ...	<u>5$\frac{3}{4}$</u>

24 JUL 1936

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23 JUL 1936

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway			Upper Deck		R. Q. Deck		Small Hatches		
Dimensions of Hatchway			No: 1	No: 2	No: 3	No: 4			
COAMINGS	Height above Deck	...	21'0" x 18'0"	23-4 1/2 x 18'0	23-4 1/2 x 18'0"	22'6" x 18'0"	Upper Deck		
	Thickness	Sides	30"	} II ^o	} II ^o	} I ^o	Escape hatch on winch platform 30"x21"		
	Stiffeners	Ends	1 1/4"				Coaming 9x3x40 B.A. 2 1/2" Cover W.P. 3" rest 7 a ft.		
	Brackets, Stays	...	1 1/4"				2 Taraulins. Cleats 20" apart.		
	Two 9x3x40 B.A. about 10' apart				Raised Quarter Deck		
HATCH BEAMS	Number	...	3	4	4	4	Escape hatch on winch platform 30"x21"		
	Spacing	...	5'3"	4'-10"	4'-10"	4'-6"	Poop deck Bunker hatch port and starboard		
	Scantling and Sketch	...	10x62	} II ^o	} II ^o	} II ^o	5'4" x 2'4" Coaming 30"x44. 2 1/2" W.P. covers		
	Bearing Surface	...	3 1/2"				3" rest. 2 Taraulins. Cleats 24" apart		
	15 1/2 x 36				aft to above 24"x22" Port & Starboard Coaming 30"x44		
FORE AND AFTERS	Number	...					2 1/2" W.P. covers. 2 1/2" rest. 2 Tarps. Cleats 15' apart		
	Spacing	...					In Poop between decks.		
	Unsupported Lengths	...					One hatch, port & starboard, 5'4"x2'6". Coaming		
	Scantling* and Sketch	...					9x3 1/2 x 44 B.A. 2 1/2" W.P. covers. 3" rest.		
	Bearing Surface	...					2 Taraulins. Cleats 24" apart		
HATCH COVERS	Material	...	W.P.	W.P.	W.P.	W.P.	One hatch, port and starboard, 4'2"x30" Coaming		
	Thickness	...	3"	3"	3"	3"	9x3 1/2 x 44 B.A. 2 1/2" W.P. covers. 3" rest.		
	How fitted	...	4x4	4x4	4x4	4x4	2 Taraulins. Cleats 24" apart.		
	Bearing Surface	...	3"	3"	3"	3"			
Spacing of Cleats			24"	24"	24"	24"			
Number of Tarpaulins			2	2	2	2			
*Are wood fore and afters steel shod at all bearing surfaces? ✓									
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? Yes.									

Particulars of fiddle, funnel and ventilator coamings:—

Engine room skylight, fiddle, funnel and ventilator coamings of steel, strongly constructed.
Fiddle openings fitted with ringed steel covers

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

None

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

On Forecastle Deck. One 20 in. dia. 40 derrick post to fore hold, stayed
On Bridge Deck. Two 15 " " to fore hold Coaming 30"x38.
Two 9 " " Accom. " 21"x38.
On Raised Quarter Deck. Two 15 in. " No: 2 hold " 8'9"x38 stayed
On Poop deck. Two 15 in. " " " 30"x38
Two 12 in. " side bunkers " 30"x38.
Two 9 in. " bunkers " 30"x38.

all Ventilators supplied with wood plugs and canvas covers.

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

On Upper Deck (inside plate). One 2 1/2" g.nk to fore plate 18" to top.
One 3" " No: 1 tank 36" " "
Two 3" " No: 2 " 36" " "
On Bridge. Two 3" g.nk to No: 3 tank 18" to top
On R. Q. Deck. Two 3" " " " 30" " "
On Poop. Two 3" " " B. tank 18" " "
One 3" " " E. tank 18" " "
Two 3" " " A. tank 18" " "
On 2nd. Two 3" " " " 18" " "

all air pipes fitted with wood plugs and canvas covers

Particulars of Gangway Cargo and Coaling Ports:—

None



Particulars of Scuppers and Sanitary Discharge Pipes :—

None

Particulars of Side Scuttles :—

None.

Particulars of Guard Rails :—

On Forecastle. 2 Rails 40 ins high, Stanchions 4 ft apart.
Forward well Bulwarks 48"x26 Rail 5 1/2 x 3 x 38 B.O. B. Plate stays 5 ft. apart.
After well " " " " " " " " " "
Bridge & Poop. 3 Rails. 40 ins high, Stanchions 5 ft. apart

Particulars of Gangways, Lifelines, etc. :—

One life line port, and one starboard, fitted in forward and after wells.

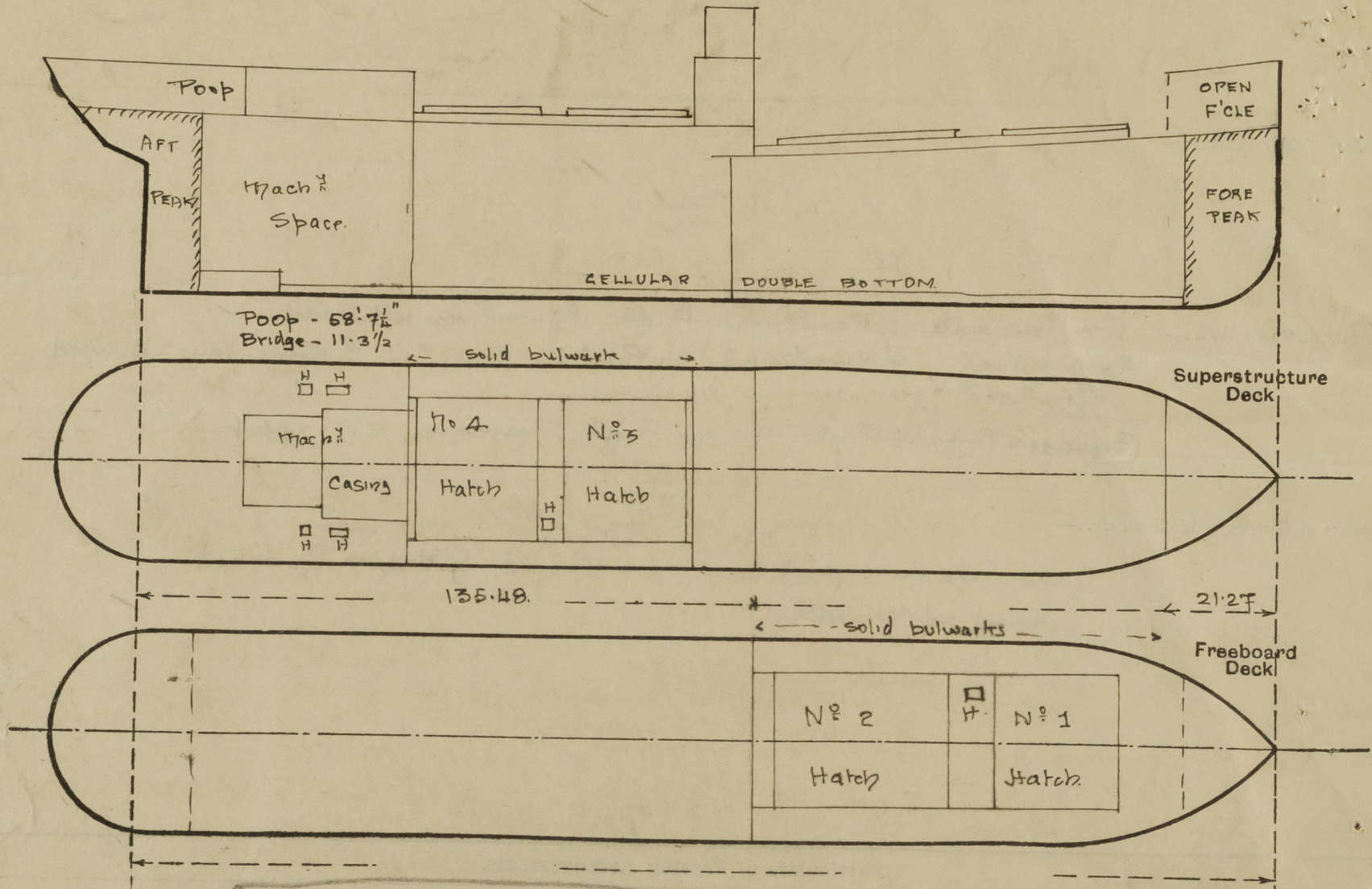
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well R.O.D.	65.6	48"	11.25 x 7.5	2	16.88	13.12
Forward Well	63.25	48"	15.75 x 7.5	2	23.12	12.32
State position of each freeing port ... { After Well:— 19'6" EP 22'0" EP 11'6" EP (F. and A. position and height above deck edge) { Forward Well:— 12'4'6" EP 16'6" EP 11'9" EP State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— like front.						
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 (on R.O.D.)	24x34	.30	4x3x38	27"	Rugs or plates	4'6" x 3'0"	20"	—
Raised Quarter Deck Bulkhead		.31	6 1/2 x 3 x 36 B.O.	30"	B.R.B.	None		—
Bridge, After Bulkhead (on R.O.D.)		.23	3x3x30	30"	None	4'6" x 2'3"	—	—
Bridge, Forward Bulkhead		.31	6 1/2 x 3 x 36 B.O.	30"	Rugs	None		—
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks (on R.O.D.)	.30	.30	4x3x40	27"	Continuous	4'6" x 2'0" 2 in no.	18"	—
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	.30	.30	4x3x40	27"	Continuous	None	—	—
Deckhouses on Flush Deck Ships								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead (on R.O.D.)	40 steel plates with dogs 12" and 6" apart
Raised Quarter Deck Bulkhead	No openings
Bridge, After Bulkhead (on R.O.D.)	2" solid wood doors Opening from both sides.
Bridge, Forward Bulkhead (on R.O.D.)	No openings
Forecastle Bulkhead	Open.
Exposed Machinery Casings on Free-board or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	30 Steel doors. Opening from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	

Highwood

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



The raised quarter deck is parallel to the sheer line of the upper deck
 actual displacement at actual draught 15' 2" = 2,467 Tons
 T.P.S. " 14' 6 1/2"

State any special features in the construction of the ship:—

Timber Assignment

Vessel is fitted with a fore-castle length 21' 2 1/2 ft; and a poop 58' 7 1/4 ft protecting the machinery casings.
 The double bottom tanks within the midship half length are fitted with a watertight centre division.
 Permanent bulwarks 48" x 26" stiffened with 5 1/2 x 3 x 38 B.A. rail with stays 5 ft apart are fitted in both wells.
 The steering gear is fitted in the poop aft and worked by telemotor. A hand gear is also fitted on the poop deck.
 Sockets for timber uprights are fitted 9 ft apart in each well and eyes for lashings are riveted to the deck stringer every 9 ft in each well, the end eyes being in each case 4' 6" from the superstructure bulkheads.

Builder's name and yard number. Messrs Short Bros No 446.

Names of sister ships. S.S. "Springwell" SLD No 31830.

Owners. The Springwell Shipping Co Ltd.

Fee £ 10. 0. 0. Received by me.

Will be charged on completion



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