

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

20 JUL 1936

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *Complete Superstructure without tonnage opening with a forecastle.*
(Type of Superstructures.)

Port of Survey *Kobe*

Date of Survey *while building*

Name of Surveyor *Murphy*

Particulars of Classification *+100 A 1*
"with freeboard"

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
CANBERRA MARU	<i>Japanese Osaka</i>	41765	6477	1936-6
Moulded Dimensions: Length <i>420</i> Breadth <i>57.4</i> Depth <i>36.08</i>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>14505.37</i> tons				
Coefficient of fineness for use with Tables <i>.687</i>				

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	<i>36.08</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>(36.14 - 28.00) × 3 = +24.42</i> <i>8.14</i>		Moulded Breadth (B)	<i>57.4</i>
Stringer plate	<i>.06</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	<i>13.77</i>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <i>No sheathing</i>				Ship's Round of Beam	<i>11.8</i>
Depth for Freeboard (D) =	<i>36.14</i>	If restricted by superstructures		Difference	<i>1.97</i>
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	<i>= \frac{1.97}{4} \times .9095 = +.45</i>

DEDUCTION FOR SUPERSTRUCTURES.

Complete Superstructure

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
„ overhang					
R.Q.D. enclosed					
„ overhang					
Bridge enclosed					
„ overhang aft	<i>4.10</i>		<i>2.85</i>		
„ overhang forward	<i>35.82</i>		<i>2.85</i>		
Fore enclosed	<i>38.85</i>	<i>35.82</i>	<i>7.38</i>	<i>2.38</i>	<i>35.82</i>
„ overhang	<i>3.03</i>	<i>2.20</i>		<i>7.5</i>	<i>2.20</i>
Trunk aft					
„ forward					
Tonnage opening aft					
„ forward					
Total	<i>38.85</i>	<i>38.02</i>			<i>37.41</i> <i>38.02</i>

Standard Height of Superstructure	<i>7.5</i>
„ „ R.Q.D.	
Deduction for complete superstructure	<i>42</i>
Percentage covered $\frac{S}{L} =$	<i>9.25</i>
„ „ $\frac{S_1}{L} =$	<i>9.05</i>
„ „ $\frac{E}{L} =$	<i>9.05</i> <i>8.41</i>
Percentage from Table, Line A.	<i>4.45</i>
(corrected for absence of forecastle (if required))	
Percentage from Table, Line B.	
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction = $42 \times .0445$	<i>= -1.87</i>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>52.00</i>	1		<i>52.00</i>	<i>39.4</i>	<i>39.40</i>	1		<i>39.40</i>
$\frac{1}{2}$ L from A.P.	<i>23.14</i>	4		<i>92.56</i>	<i>10.68</i>	<i>10.68</i>	4		<i>42.72</i>
$\frac{3}{4}$ L „	<i>5.72</i>	2		<i>11.44</i>	<i>.43</i>	<i>.43</i>	2		<i>.86</i>
Amidships	-	4		-	0	-	4		-
$\frac{3}{4}$ L from F.P.	<i>11.44</i>	2		<i>22.88</i>	<i>4.02</i>	<i>4.02</i>	2		<i>8.04</i>
$\frac{1}{2}$ L „	<i>46.28</i>	4		<i>185.12</i>	<i>32.80</i>	<i>32.80</i>	4		<i>131.20</i>
F.P.	<i>104.00</i>	1		<i>104.00</i>	<i>90.60</i>	<i>90.60</i>	1		<i>90.60</i>
Total				<i>468.00</i>					<i>312.82</i>

Mean actual sheer aft = *Deficient*
Mean standard sheer aft
Mean actual sheer forward = *Deficient* (*72.542 standard*)
Mean standard sheer forward
Length of enclosed superstructure forward of amidships = *Nil*
„ „ aft of „ = *Nil*

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{155.18}{18} \left(.75 - \frac{.0462}{.7038} \right) = +6.07$

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *36.14*
Summer freeboard = *10.89*
Moulded draught (d) = *25.25*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *6.31 = 160.2*

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

Tons per inch immersion at summer load water line

T =

Deduction = $\frac{\Delta}{40T}$ inches

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

.687 + .68 = 1.367
1.36

	+	-
Depth Correction	<i>24.42</i>	
Deduction for superstructures		<i>1.87</i>
Sheer correction	<i>6.07</i>	
Round of Beam correction	<i>0.45</i>	
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.	<i>23.48</i>	
	<i>54.42</i>	<i>1.87</i>

77.80
78.20

81.36
21.736

+52.55

Summer Freeboard = *130.75 = 332.02*

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

Tropical Fresh Water Line above Centre of Disc	<i>319</i>
Fresh Water Line	<i>159</i>
Tropical Line	<i>160</i>
Winter Line below	<i>160</i>
Winter North Atlantic Line	

Tropical Fresh Water Freeboard	<i>3001</i>
Fresh Water	<i>3161</i>
Tropical	<i>3160</i>
Winter	<i>3480</i>
Winter North Atlantic	

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	Stiffeners	...	...	...	...	...	...	...	...
	Brackets, Stays	...	...	...	...	...	...	...	...
HATCH BEAMS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
FORE AND AFTERS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Unsupported Lengths	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
HATCH COVERS	Material	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	How fitted	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...
Number of Tarpaulins	...	...	...	...	...	...	...	...	...

*Are wood fore and afters steel shod at all bearing surfaces?
 Are battens and wedges efficient and in good condition?
 Are tarpaulins in good condition and in accordance with rule requirements?
 Are lashings provided in accordance with rule requirements?

Particulars of fiddle, funnel and ventilator coamings:—

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:—

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

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

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Scuppers and Sanitary Discharge Pipes —

Particulars of Side Scuttles:

Particulars of Guard Rails:—

Particulars of Gangways, Lifelines, etc.:—

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

State position of each freeing port ... After Well:—
 (F. and A. position and height above deck edge) Forward Well:—
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
 Additional area where sheer is less than standard.

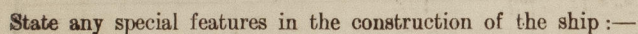
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead
Raised Quarter Deck Bulkhead
Bridge, After Bulkhead
Bridge, Forward Bulkhead
Forecastle Bulkhead
Trunk, Aft
Trunk, Forward
Exposed Machinery Casings on Freeboard or Raised Quarter Decks
Exposed Machinery Casings on Superstructure Decks
Machinery Casings within Superstructures not fitted with Class I Closing Appliances
Deckhouses on Flush Deck Ships

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

Poop Bulkhead	...
Raised Quarter Deck Bulkhead	...
Bridge, After Bulkhead	...
Bridge, Forward Bulkhead	...
Forecastle Bulkhead	...
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	...
Exposed Machinery Casings on Superstructure Decks	...
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...
Deckhouses on Flush Deck Ships	...

Storm board in Rudder Channels to Cargo Space, Steel Hinged door to stores etc.
 Hinged Steel Door in Machinery Compartment (see latter entry) 2/2020

Hour.	Hour.	



Shea forest

$$\frac{201.00}{277.16} = .7254$$

Fee £ Received by me