

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for MOTOR COLLIER
having POOP AND FORECASTLE
(Type of Superstructures.)

Port of Survey HULL

Date of Survey DURING CONSTRUCTION OF THORNE.

Name of Surveyor A. H. England

Particulars of Classification SA 100A1.
COASTING SERVICE GREAT BRITAIN & IRELAND

Ship's Name "EMPIRE RUNNER" Nationality and Port of Registry BRITISH GOOLE. Official Number 169093 Gross Tonnage 313 Date of Build 1943

Moulded Dimensions: Length 140.8 Breadth 21.5 Depth 10.0
Moulded displacement at moulded draught = 85 per cent. of moulded depth 563 tons
Coefficient of fineness for use with Tables .768 T.P. INCH 6.36

Depth for Freeboard (D)				Depth correction		Round of Beam correction	
Moulded depth	...	...	10.0	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	21.5
Stringer plate	...	...	.34	(10.03 - 9.36) × 1.079 = +7.2		Standard Round of Beam = $\frac{B \times 12}{50}$	5.16
Sheathing on exposed deck	...	...	.03	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	6"
$T \left(\frac{L-S}{L} \right) =$	...	...	NIL.			Difference	.84
Depth for Freeboard (D) =	...	...	10.03	If restricted by superstructures	✓	Restricted to	
						Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$= \frac{.84}{4} \times .5936 = -.12$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	39.42	39.42	7.0	-	39.42	Standard Height of Superstructure 6.0
" overhang						" " R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure 20.03
" overhang						Percentage covered $\frac{S}{L} =$
Bridge enclosed						" " $\frac{S_1}{L} =$
" overhang aft						" " $\frac{E}{L} =$
" overhang forward						Percentage from Table, Line A. 22.27
F'cle enclosed	17.62	17.62	6.0 AFT END	5/6	14.68	(corrected for absence of forecastle (if required))
" overhang			5.0 FORE END			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 = 20.03 × .2227 = -4.46
" " forward						
Total	57.04	57.04			54.10	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	24.03	1		24.03	18'	18.00	1		18.00	Mean actual sheer aft =
$\frac{1}{6}L$ from A.P.	10.69	4		42.76	2 3/4	2.75	4		11.00	Mean standard sheer aft =
$\frac{2}{6}L$ "	2.64	2		5.28	NIL	-	2		-	Mean actual sheer forward =
Amidships	-	4		-	NIL	-	4		-	Mean standard sheer forward =
$\frac{3}{6}L$ from F.P.	5.28	2		10.56	NIL	-	2		-	Length of enclosed superstructure forward of amidships =
$\frac{4}{6}L$ "	21.39	4		85.56	6'	6.00	4		24.00	" " aft of " =
F.P.	48.06	1		48.06	41'	41.00	1		41.00	
Total				216.25					94.00	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{122.25}{18} \left(.75 - \frac{20.03}{140.8} \right) = +3.71$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	14.24
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.768 + .68}{1.36} = \frac{1.448}{1.36}$	15.16
Depth to Freeboard Deck = 10.03	$\Delta = 589$	Depth Correction ...	.72
Summer freeboard = 1.25	Tons per inch immersion at summer load water line	Deduction for superstructures ...	- 4.46
Moulded draught (d) = 8.78	T = 6.40	Sheer correction ...	3.71
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40 T} = \frac{589}{40 \times 6.40} = 2.30 = 2 3/4$	Round of Beam correction ...	- .12
Winter freeboard = $\frac{d}{4}$ inches = 2.19 = 2 1/4	Moulded Draught = Ext. Dis. T.P.L.	Correction for Thickness of Deck amidships ...	-
Addition for Winter North Atlantic Freeboard (if required) =	9.6' 644 6.52	Other corrections, scantlings, etc. ...	-
	9.0' 606 6.43		
	8.6' 567 6.36		
		Summer Freeboard =	15.01

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

Tropical Fresh Water Line above Centre of Disc	Not assigned	Tropical Fresh Water Freeboard	...
Fresh Water Line	"	Fresh Water	1'-0 3/4"
Tropical Line	"	Tropical	...
Winter Line	below	Winter	1'-5 1/4"
Winter North Atlantic Line	"	Winter North Atlantic	...

Tropical Fresh Water Freeboard	...
Fresh Water	1'-0 3/4"
Tropical	...
Winter	1'-5 1/4"
Winter North Atlantic	...

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECK									
Description of Hatchway			MAIN HATCH.						
Dimensions of Hatchway			77'-0" x 14'-0"						
COAMINGS	{	Height above Deck	3'-0" AT AMER END	FORE END					
		Thickness	2'-9"	10'-3 1/4" 38 BF.					
			38	7'-3 1/4" 38 BF.					
		Stiffeners	38	HATCH COAMING.					
		Brackets, Stays	4 x 2 1/2" 30 ANGLES SPACED ABOVE DECK KEELS IN HOLD.						
HATCH BEAMS	{	Number	19						
		Spacing	3'-10 1/2"						
		Scantling and Sketch							
		Bearing Surface	3 1/8"						
FORE AND AFTERS	{	Number	NONE						
		Spacing							
		Unsupported Lengths							
		Scantling* and Sketch							
HATCH COVERS	{	Material	WHITE PINE.						
		Thickness	2 3/8" FINISHED WITH 3/16" STEEL BEARING PLATES						
		How fitted	FORE AND AFT						
		Bearing Surface	2 7/8"						
Spacing of Cleats			2'-0" APART OF 3 x 2 1/2" 30 ANGLES 6' LONG WELDED TO COAMING.						
Number of Tarpaulins			Two.						
*Are wood fore and afters steel shod at all bearing surfaces? NONE ✓									
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? 2 1/2" CIRC HEMP LASHINGS ARRANGED AT QUARTERS AT EACH END OF EACH BAY OF COVERS. SECURED BY EYE PLATES WELDED TO HATCH COAMING. LOCKING BAR ALSO FITTED IN CENTRE OF EACH BAY OF COVERS. ✓									

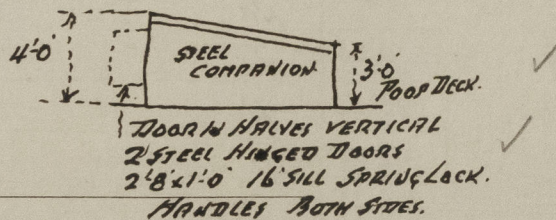
Particulars of fiddley, funnel and ventilator coamings:—

2 CASING TOP PLATED OVER 2'4" ✓
2 ENGINE ROOM VENTILATORS 10" DIAM ✓
ENGINE ROOM STEEL SHELTER WITH 2 HINGED STEEL FLAPS ✓
WITH QUADRANTS. NO LIGHTS. FLAPS 2'6" x 1'3" ✓
OVAL FUNNEL 4'6" x 3'0" ✓

Particulars of Flush Bunker Scuttles:— ON POOD DECK TO GALLEY BUNKER / SCUTTLE WOOLLENS N° 1 14 DIA. WITH CHAIN.
/ MANHOLE TO AFTER PEAK IN POOD SPACE ON MAIN DECK } MANHOLES 18" x 12" WITH 30 STEEL COVER. ✓
/ FORE AFT } SECURED BY 9/16 STUDS 4' APART.

Particulars of Companionways :— *STEEL COMPANION ON POOP DECK TO CREW SPACE*

ENTRANCE TO OFFICER'S ACCOMMODATION AND ENGINE ROOM BY STEEL HINGED DOORS IN CASING SIDES. SLIDING STEEL COVER TO EACH COMPARTMENT. SPRING LOCKS AND HATCHES BOTH SIDES.



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

ON MAIN DECK TO HOLD AT FORE END OF HATCH 13" DIA COOL VENTILATOR 3'0" HIGH X .34 10FF. } SUPPLIED WITH WOOD PLUGS
" HATCH SHELF AFTER 13' 2'6" X .34 10FF. } AND CTRVRS COVERS.
" POOP DECK TO ACCOMMODATION PASSAGEWAYS 6' 3'0" X .30 2' }
" " 110FF 5" MUSHROOM VENTILATORS. CORNINGS 7" HIGH X .35 THICK. ✓

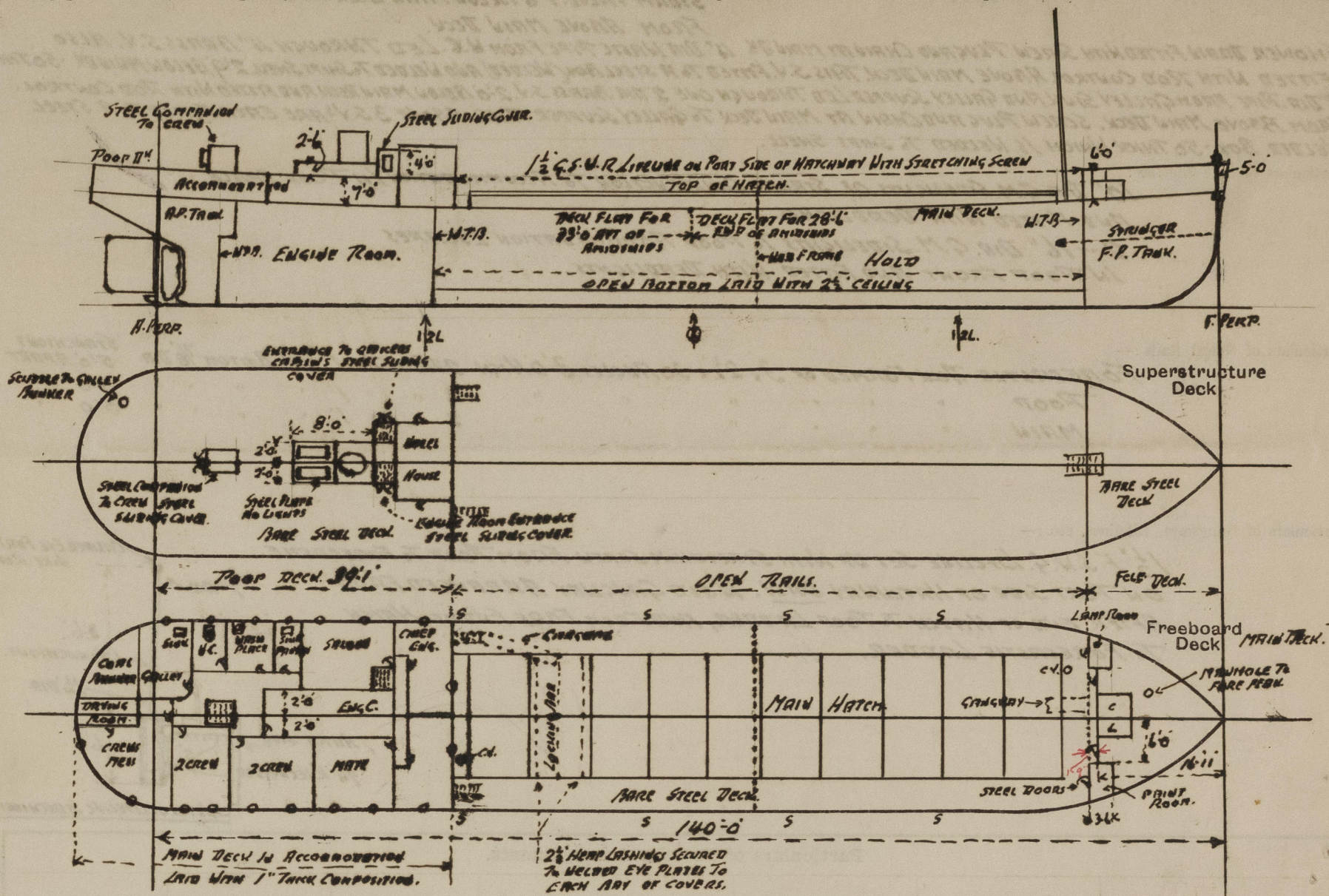
Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

AIR PIPE TO FORE PEAK TANK ON FORECASTLE DECK	3"	GOOSE NECK	16"	TO MOUTH.	
" " AFTER POOP	3'		16'		
" " OIL FUEL TANKS ON ENG. ROOM CASING TOP	3'		16'	FITTED WITH GRUZE.	
" " DINING ROOM ON POOP DECK	2'		16'		
SUPPLIED WITH WOOD PLUGS AND CHAIN.					

Particulars of Gangway Cargo and Coaling Ports:—

NONE. FITTED.

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:—



File $\frac{4 \times 1.75}{10} = \frac{16.92}{67.62}$ equivalent endons.

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

Builder's name and yard number RICHARD DUNSTON LTD. THORNE. YARD N° 396.

Names of sister ships "EMPIRE SKIPPER" HULL FREEBOARD REPORT N° 2019.

Owners MINISTRY OF WAR TRANSPORT.

Fee £ 5 Received by me FREE WILL BE CHARGED WITH FIRST ENTRY.



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