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Ship's Name "KOSMONAUT"	Official Number	Nationality and Port of Registry RUSSIAN ODESSA	Gross Tonnage 10657.63	Date of Build 1962
Moulded Dimensions: Length 148.20m Breadth 21.19m Depth 12.73 m Freeboard Length 148.20 m Moulded displacement at moulded draught = 85 per cent. of moulded depth (10.82m) 22.600 tons (excluding bossing) Coefficient of fineness for use with Tables 680				

Port of Survey Copenhagen  
 Date of Survey whilst building  
 Surveyor's Signature *Thamphong*  
 contemplated  
 Particulars of Classification + 100 A.1

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. <u>12.730</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>8.33(12.764 - 9.880)30.00 = +721 mm</u>	Moulded Breadth (B) <u>21.19m</u>
Stringer plate ... .. <u>.034</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times D}{50} = \frac{21.19 \times 12.764}{50} = 425 \text{ mm}$
Wood Sheathing on exposed deck		Ship's Round of Beam = <u>425 mm</u>
$T \left( \frac{L-S}{L} \right) =$		Difference = <u>-</u>
Depth for Freeboard (D) = <u>12.764</u>	If restricted by superstructures	Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \text{Nil}$

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...	29.075				
F'cle enclosed ...	<del>28.705</del>	29.075	2.450	-	29.075
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	29.075	29.075			29.075

Standard Height of Superstructure 2.290

" " R.Q.D. -

Deduction for complete superstructure 1067

Percentage covered  $\frac{S}{L} =$

" "  $\frac{S_1}{L} =$  } 19.62

" "  $\frac{E}{L} =$

Percentage from Table, Line A. 9.81  
(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 = 1067 x .0981 = 105 mm.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	1489	1	1489	1450	1450	1	1450
$\frac{1}{2}$ L from A.P. ...	661	4	2644	660	660	4	2640
$\frac{3}{8}$ L " ...	165	2	330	170	170	2	340
Amidships ...	0	4	0	0	0	4	0
$\frac{3}{8}$ L from F.P. ...	331	2	662	360	360	2	720
$\frac{1}{2}$ L " ...	1323	4	5292	1325	1325	4	5300
F.P. ...	2977	1	2977	2895	2895	1	2895
Total ...			13394				13345

Mean actual sheer aft = *Deficient*

Mean standard sheer aft =

Mean actual sheer forward = *Deficient*

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

L

" " aft of " =

.6519

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{59}{18} (.75 - .0981) = + 2 \text{ mm}$

If limited on account of midship superstructure. If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100ft.

<p><b>Deduction for Tropical Freeboard.</b></p> <p><b>Addition for Winter and Winter North Atlantic Freeboard.</b></p> <p><i>line 30m - below</i></p> <p>Depth to Freeboard Deck = <i>12.464</i></p> <p>Summer freeboard = <i>2.813</i></p> <p>Moulded draught (d) = <i>9.651</i></p> <p>Keel allowance =</p> <p>Extreme draught =</p> <p>Deduction for Tropical freeboard and addition for =</p> <p>Winter freeboard = <i>d inches = 20 inches</i></p> <p><b>Addition for Winter North Atlantic Freeboard (if required) =</b></p>	<p>taken in S.W. at 1016kg</p> <p><b>Deduction for Fresh Water.</b></p> <p>Displacement in salt water at summer load water line</p> <p><math>\Delta</math> = <i>19990</i></p> <p>Tons per inch immersion at summer load water line</p> <p>T = <i>63.18</i></p> <p>Deduction = <math>\frac{\Delta}{40 T}</math> inches <i>7.91</i></p> <p><i>= 20 inches</i></p> <p>9.510 T9645 62.9</p> <p>9.660 20012 63.25</p> <p>9.810 20390 63.60</p>	<p><b>TABULAR FREEBOARD</b> <i>corrected for Flush Deck (if required)</i></p> <p>Correction for coefficient <i>Nil</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">+</th> <th style="text-align: center;">-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction</td> <td style="text-align: center;">721</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Deduction for superstructures</td> <td style="text-align: center;">-</td> <td style="text-align: center;">105</td> </tr> <tr> <td>Sheer correction</td> <td style="text-align: center;">2</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Round of Beam correction</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Correction for <i>thickness</i> of Deck amidships</td> <td style="text-align: center;">-</td> <td style="text-align: center;">300</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td></td> <td style="text-align: center;"><b>723</b></td> <td style="text-align: center;"><b>405</b></td> </tr> </tbody> </table> <p style="text-align: right;"><i>LB</i> <i>7/11/62</i></p> <p style="text-align: right;"><b>+ 318</b></p> <p style="text-align: right;">Summer Freeboard = <i>2813</i></p>		+	-	Depth Correction	721	-	Deduction for superstructures	-	105	Sheer correction	2	-	Round of Beam correction	-	-	Correction for <i>thickness</i> of Deck amidships	-	300	Other corrections, scantlings, etc.	-	-		<b>723</b>	<b>405</b>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, <del>Wood</del> Steel, Deck :-			
Tropical Fresh Water Line	above	Centre of Disc	402.2 mm
Fresh Water Line	"	"	201.4 mm
Tropical Line	"	"	201.4 mm
Winter Line	below	"	201.4 mm
Winter North Atlantic Line	"	"	—



A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made,  
the Surveyor should endorse the form on this side with his signature and the date.

Trade of ship... Ocean Going *48726 50060*  
Names of sister ships... "BELORETSK", "BELOVODSK" (Nakskov Skibsv. Nos. 166 & 167)  
Builder's name and yard number... Burmeister & Wain No. 791  
Owners... U.S.S.R.  
Fee £ To be charged *[Signature]*  
with F.E.

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950", paragraph 11.)

MIDSHIP SECTION  
PROFILE & DECKS  
STEEL HATCH COVERS



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