

*Division of Marine Trans.  
Juneau, Office Copy*

**352 FT. PASSENGER & AUTOMOBILE FERRY  
for  
STATE OF ALASKA**

**TANK SOUNDING TABLES**

0131

**02-100-078-004**

Rev -

Book  
25  
Pages

**PHILIP F. SPAULDING & ASSOCIATES**  
NAVAL ARCHITECTS · MARINE ENGINEERS  
SEATTLE, WASHINGTON

**6126-01-15**

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**FOREPEAK TANK**  
**S.W. Ballast**

EVEN KEEL FT. - IN.	TONS	EVEN KEEL FT. - IN.	TONS
0 - 0	.01	10 - 0	9.80
6	.30	6	10.77
1 - 0	.59	11 - 0	11.74
6	.89	6	12.88
2 - 0	1.20	12 - 0	13.99
6	1.54	6	15.33
3 - 0	1.89	13 - 0	16.70
6	2.28	6	18.27
4 - 0	2.68	14 - 0	19.86
6	3.09	6	21.66
5 - 0	3.49	15 - 0	23.48
6	4.03	6	25.59
6 - 0	4.56	16 - 0	27.67
6	5.09	6	30.18
7 - 0	5.62	17 - 0	32.69
6	6.22	6	34.85
8 - 0	6.85	9	37.02
6	7.54		
9 - 0	8.22		
6	8.99		

98% Full Tank - 36.28 Tons S.W.  
Full Tank - 37.02 Tons S.W.  
(S.W. @ 35 cu. ft./ton)

CALL: *John Jones*  
CHECKED: *[Signature]*  
APPVD: *[Signature]*

PHILIP F. SPAULDING & ASSOCIATES  
65 MARION STREET  
SEATTLE, 4, WASHINGTON

6126-01-15  
SHEET 3 - 25

**NO. 1 BALLAST TANK  
S.W. Ballast**

EVEN KEEL		EVEN KEEL	
FT. - IN.	TONS	FT. - IN.	TONS
0 - 0	--	13 - 0	37.48
1 - 0	.45	14 - 0	43.03
2 - 0	1.84	15 - 0	46.31
3 - 0	3.70	16 - 0	52.58
4 - 0	5.59	17 - 0	56.86
5 - 0	8.38	18 - 0	63.13
6 - 0	11.54	19 - 0	68.68
7 - 0	14.53	20 - 0	76.52
8 - 0	18.13	21 - 0	83.65
9 - 0	21.37	22 - 0	92.20
10 - 0	25.22	23 - 0	101.60
11 - 0	29.35	24 - 0	111.58
12 - 0	33.63	25 - 0	121.95

98% Full Tank - 119.51 Tons S.W.  
Full Tank - 121.95 Tons S.W.

(S.W. @ 35 cu. ft./ton)

CALC: *J.W. Kerner*  
CHECKED: *G.W.*  
APPVD: *J.S.*

PHILIP F. SPAULDING & ASSOCIATES  
65 MARION STREET  
SEATTLE 4, WASHINGTON

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SHEET 4 OF 25

**NO. 1 DOUBLE BOTTOM TANK  
S.W. Ballast**

EVEN KEEL		EVEN KEEL	
FT. - IN.	TONS	FT. - IN.	TONS
0 - 0	.07		
6	1.22		
1 - 0	2.85		
6	4.90		
2 - 0	7.55		
6	10.60		
3 - 0	14.14		
6	17.95		
4 - 0	22.03		
6	26.30		
11 1/2	30.41		

98% Full Tank - 29.80 Tons S.W.  
Full Tank - 30.41 Tons S.W.

(S.W. @ 35 cu. ft./ton)

CALC *J.W. Karna*  
CHECKED *GN*  
APPVD: *J.S.*

PHILIP F. SPAULDING & ASSOCIATES  
65 MARION STREET  
SEATTLE 4, WASHINGTON

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SHEET 5 OF 25

**NO. 2 DOUBLE BOTTOM TANK**

**S.W. Ballast**

EVEN KEEL		EVEN KEEL	
FT. - IN.	TONS	FT. - IN.	TONS
0 - 0	.14	5 - 0	46.85
6	1.70	6	49.10
1 - 0	4.13	6 - 0	51.15
6	7.55	6	52.92
2 - 0	11.68	7 - 0	54.58
6	16.38	6	56.43
3 - 0	21.23	8 - 0	57.71
6	26.73	6	59.14
4 - 0	32.83	9 - 0	60.56
6	39.56	6	61.84
		8 1/2	62.41

98% Full Tank - 61.16 Tons S.W.  
Full Tank - 62.41 Tons S.W.

(S.W. @ 35 cu. ft./ton)

CALC J. W. Karna  
 CHECKED: SN  
 APPVD: J.S.

PHILIP F. SPAULDING & ASSOCIATES  
 65 MARION STREET  
 SEATTLE 4, WASHINGTON

6126-01-15  
 SHEET 6 OF 25

NO. 3 DOUBLE BOTTOM TANK

S.W. Ballast

EVEN KEEL		EVEN KEEL	
FT. - IN.	TONS	FT. - IN.	TONS
0 - 0	.14	5 - 0	85.07
6	2.85	6	87.50
1 - 0	7.18	6 - 0	90.06
6	13.68	6	92.62
2 - 0	21.80	7 - 0	94.90
6	30.55	6	97.61
3 - 0	40.04	8 - 0	99.90
6	50.16	6	102.03
4 - 0	60.99	9 - 0	104.17
6	73.02	6	106.30
		8 1/2	107.02

*Superseded*

98% Full Tank - 104.88 Tons S.W.  
 Full Tank - 107.02 Tons S.W.

(S.W. @ 35 cu. ft./ton)

CALC <i>J.W. Kerrow</i> CHECKED <i>GN</i> APPVD <i>J.S.</i>	PHILIP F. SPAULDING & ASSOCIATES 65 MARION STREET SEATTLE 4, WASHINGTON	6126-01-15 SHEET 7 OF 25
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**NO. 6 DOUBLE BOTTOM TANK  
S.W. Ballast**

EVEN KEEL		EVEN KEEL	
FT. - IN.	TONS	FT. - IN.	TONS
0 - 0	2.88		
6	4.42		
1 - 0	7.21		
6	11.63		
2 - 0	17.24		
6	23.51		
3 - 0	30.21		
6	36.91		
4 - 0	44.03		
6	49.16		
5 - 0	52.38		
6	53.66		
9	54.38		

**98% Full Tank - 53.29 Tons S.W.  
Full Tank - 54.38 Tons S.W.**

**(S.W. @ 35 cu. ft./ton)**

CALC <i>J.W. Kerner</i> CHECKED <i>GN</i> APPVD: <i>J.S.</i>	PHILIP F. SPAULDING & ASSOCIATES 65 MARION STREET SEATTLE, 4, WASHINGTON	6126-01-15 SHEET 8 OF 25
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**NO. 2 WING BALLAST TANK  
S.W. Ballast**

EVEN KEEL		EVEN KEEL	
FT. - IN.	TONS	FT. - IN.	TONS
0 - 0	.01	8 - 0	48.31
6	.10	6	54.92
1 - 0	.19	9 - 0	62.33
6	.37	6	70.17
2 - 0	.73	10 - 0	77.86
6	1.33	6	86.27
3 - 0	2.01	11 - 0	94.25
6	3.32	6	103.23
4 - 0	5.20	12 - 0	112.20
6	8.24	6	121.89
5 - 0	11.71	13 - 0	131.87
6	16.44	6	142.84
6 - 0	21.57	14 - 0	154.61
6	27.27	6	166.87
7 - 0	33.80	15 - 0	178.75
6	40.67	6	194.43

98% Full Tank - 190.54 Tons S.W.  
Full Tank - 194.43 Tons S.W.

(S.W. @ 35 cu. ft./ton)

<p><i>J.W. Kerne</i> G.N. J.S.</p>	<p>PHILIP F. SPAULDING &amp; ASSOCIATES 65 MARION STREET SEATTLE 4, WASHINGTON</p>	<p>6126-01-15 9 25</p>
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**NO. 3 WING BALLAST TANK**  
S.W. Ballast

EVEN KEEL		EVEN KEEL	
FT. - IN.	TONS	FT. - IN.	TONS
0 - 0	-0-	11 - 0	91.14
6	.14	6	99.12
1 - 0	.54	12 - 0	108.24
6	1.08	6	117.36
2 - 0	1.65	13 - 0	127.33
6	2.25	6	136.74
3 - 0	3.39	14 - 0	148.14
6	4.81	6	157.26
4 - 0	6.84	15 - 0	169.51
6	8.49	6	180.34
5 - 0	10.77	16 - 0	192.88
6	13.67	6	204.57
6 - 0	17.61	17 - 0	217.96
6	22.17	6	232.21
7 - 0	27.58	18 - 0	246.46
6	34.14	6	263.56
8 - 0	41.26	19 - 0	278.95
6	48.39	6	295.77
9 - 0	56.65	20 - 0	311.73
6	64.06	6	328.54
10 - 0	70.05	9	337.38
6	81.16		

98% Full Tank - 330.63 Tons S.W.  
Full Tank - 337.38 Tons S.W.

(S.W. @ 35 cu. ft./ton)

CALC: <i>J.W. Kearns</i> CHECKED: <i>GN</i> APPVD: <i>J.S.</i>	PHILIP F SPAULDING & ASSOCIATES 65 MARION STREET SEATTLE 4, WASHINGTON	6126-01-15  SHEET 10 OF 25
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**NO. 4 WING BALLAST TANK**  
S.W. Ballast

EVEN KEEL		EVEN KEEL	
FT. - IN.	TONS	FT. - IN.	TONS
0 - 0	-0-	9 - 0	46.48
6	.19	6	53.04
1 - 0	.31	10 - 0	60.16
6	1.00	6	68.14
2 - 0	1.62	11 - 0	75.84
6	2.28	6	81.54
3 - 0	2.96	12 - 0	92.94
6	3.93	6	101.49
4 - 0	4.90	13 - 0	110.61
6	5.98	6	120.58
5 - 0	8.29	14 - 0	129.99
6	11.00	6	139.68
6 - 0	14.56	15 - 0	151.36
6	18.84	6	162.76
7 - 0	23.11	16 - 0	175.59
6	28.24	6	189.13
8 - 0	33.80	17 - 0	204.80
6	39.76	6	221.90
		18 - 0	241.14
		2	241.74

98% Full Tank - 236.9 Tons S.W.  
Full Tank - 241.74 Tons S.W.

(S.W. @ 35 cu. ft./ton)

CALC *J.W. Hanna*  
CHECKED *GN*  
APPVD *J.S.*

PHILIP F. SPAULDING & ASSOCIATES  
65 MARION STREET  
SEATTLE 4, WASHINGTON

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SHEET 11 OF 25

**NO. 4  $\phi$  BALLAST TANK**  
**S.W. Ballast**

EVEN KEEL		EVEN KEEL	
FT. - IN.	TONS	FT. - IN.	TONS
0 - 0	-0-	9 - 0	135.77
6	.77	6	146.32
1 - 0	1.42	10 - 0	156.86
6	3.45	6	167.41
2 - 0	5.39	11 - 0	177.95
6	10.77	6	188.50
3 - 0	16.16	12 - 0	199.04
6	23.80	6	209.59
4 - 0	31.63	13 - 0	220.13
6	41.15	6	230.68
5 - 0	50.99	14 - 0	241.22
6	61.39	6	251.77
6 - 0	71.79	15 - 0	262.31
6	82.39	6	272.86
7 - 0	93.02	16 - 0	283.40
6	103.85	6	293.95
8 - 0	114.68	17 - 0	304.50
6	125.23	6	315.04
		9 1/2	322.45

**98% Full Tank - 316.0 Tons S.W.**  
**Full Tank - 322.45 Tons S.W.**

(S.W. @ 35 cu. ft./ton)

CALC: *J.W. Kenna*  
 CHECKED: *G.N.*  
 APPVD: *J.W.*

PHILIP F. SPAULDING & ASSOCIATES  
 65 MARION STREET  
 SEATTLE 4, WASHINGTON

**6126-01-15**  
 SHEET **12** OF **25**

**NO. 4 DOUBLE BOTTOM TANK (PORT OR STBD)**  
**Fuel Oil**

EVEN KEEL			EVEN KEEL		
FT. - IN.	BARRELS	TONS	FT. - IN.	BARRELS	TONS
0 - 0	3.4	.52	2 - 10	175.3	26.79
1	5.2	.79	11	182.4	27.88
2	7.0	1.07	3 - 0	189.6	28.97
3	8.8	1.34	1	197.0	30.10
4	11.1	1.70	2	204.4	31.23
5	13.5	2.06	3	211.8	32.37
6	15.8	2.42	4	219.4	33.53
7	18.8	2.87	5	227.0	34.68
8	21.8	3.33	6	234.6	35.85
9	24.8	3.78	7	242.3	37.03
10	29.0	4.44	8	250.0	38.20
11	33.3	5.09	9	257.7	39.38
1 - 0	37.6	5.74	10	265.7	40.61
1	42.6	6.50	11	273.8	41.83
2	47.6	7.26	4 - 0	281.8	43.06
3	52.5	8.03	1	289.8	44.28
4	58.0	8.87	2	297.8	45.50
5	63.5	9.77	3	305.8	46.73
6	69.4	10.61	4	314.2	48.02
7	75.6	11.56	5	322.6	49.30
8	81.9	12.51	6	331.1	50.59
9	88.1	13.46	7	340.3	52.00
10	94.3	14.42	8	349.5	53.40
11	100.6	15.37	9	358.7	54.81
2 - 0	106.8	16.32	10	360.2	55.04
1	113.4	17.33	11	361.6	55.26
2	120.0	18.34	5 - 0	363.1	55.49
3	126.7	19.35	1	364.5	55.70
4	133.6	20.41	2	366.0	55.92
5	140.5	21.46	3	367.4	56.14
6	147.4	22.52	4	368.8	56.36
7	154.1	23.55	5	370.2	56.58
8	161.1	24.62	6	371.7	56.79
9	168.2	25.70	7	373.0	57.00
			8	374.4	57.21

(Continued)

**NO. 4 DOUBLE BOTTOM TANK (PORT OR STBD)  
Fuel Oil**

(Continued)

FT. - IN.	EVEN KEEL BARRELS	TONS	FT. - IN.	EVEN KEEL BARRELS	TONS
5 - 9	375.7	57.42	8 - 9	417.6	63.81
10	377.1	57.62	10	418.6	63.97
11	378.5	57.83	11	419.6	64.12
6 - 0	379.8	58.04	9 - 0	420.6	64.27
1	381.1	58.24	1	421.5	64.42
2	382.4	58.44	2	422.5	64.56
3	383.8	58.64	3	423.5	64.71
4	385.0	58.83	4	424.2	64.82
5	386.3	59.02	5	424.9	64.93
6	387.5	59.21	6	425.6	65.03
7	388.7	59.40			
8	390.0	59.59			
9	391.2	59.78			
10	392.5	59.98			
11	393.7	60.17			
7 - 0	395.0	60.36			
1	396.1	60.54			
2	397.3	60.72			
3	398.5	60.90			
4	399.6	61.06			
5	400.7	61.23			
6	401.7	61.39			
7	402.8	61.55			
8	403.9	61.72			
9	404.9	61.88			
10	406.0	62.04			
11	407.0	62.21			
8 - 0	408.1	62.37			
1	409.2	62.53			
2	410.3	62.70			
3	411.3	62.86			
4	412.4	63.02			
5	413.5	63.18			
6	414.6	63.35			
7	415.5	63.50			
8	416.6	63.66			

95% Full Tank - 61.78 Tons or 404.3  
Bbls Fuel Oil

Full Tank - 65.03 Tons or 425.6 Bbls.  
Fuel Oil

CALC  
CHECKED  
APPVD:

*J.W. Renna*  
*G.N.*  
*J.S.*

PHILIP F. SPAULDING & ASSOCIATES  
65 MARION STREET  
SEATTLE 4, WASHINGTON

6126-01-15

SHEET 13 A OF 25

**NO. 5 DOUBLE BOTTOM TANK ( PORT OR STBD )**  
**Fuel Oil**

EVEN KEEL			EVEN KEEL		
FT. - IN.	BARRELS	TONS	FT. - IN.	BARRELS	TONS
0 - 0	61.9	9.46	3 - 0	544.7	83.23
1	67.1	10.25	1	562.0	85.89
2	72.3	11.04	2	581.4	88.84
3	80.8	12.35	3	597.0	91.22
4	89.7	13.71	4	615.2	94.01
5	102.0	15.58	5	633.8	96.85
6	112.5	17.19	6	652.0	99.63
7	125.8	19.23	7	668.8	102.20
8	137.6	21.02	8	685.9	104.82
9	148.8	22.74	9	703.1	107.44
10	161.3	24.64	10	711.5	108.73
11	173.4	26.50	11	721.1	110.19
1 - 0	185.4	28.36	4 - 0	730.6	111.63
1	198.3	30.30	1	734.3	112.21
2	211.2	32.27	2	738.2	112.81
3	224.0	34.23	3	742.1	113.40
4	238.1	36.39	4	745.3	113.89
5	252.4	38.56	5	748.7	114.41
6	266.6	40.74	6	751.9	114.90
7	280.3	42.83	7	755.5	115.44
8	294.1	44.94	8	759.0	115.99
9	307.9	47.05	9	762.6	116.53
10	322.0	49.21	10	765.4	116.97
11	336.3	51.40	11	768.5	117.43
2 - 0	350.5	53.55	5 - 0	771.5	117.89
1	366.1	55.95	1	774.2	118.30
2	382.0	58.37	2	776.8	118.71
3	397.8	60.76	3	779.5	119.12
4	413.1	63.12	4	782.4	119.55
5	428.5	65.48	5	785.4	120.01
6	443.9	67.83	6	788.4	120.48
7	460.2	70.32	7	790.7	120.83
8	476.6	72.83	8	793.2	121.21
9	493.0	75.34	9	795.5	121.56
10	510.0	77.95	10	797.8	121.92
11	527.4	80.59	11	800.3	122.30

(Continued)

CALC: <i>JW Kerner</i> CHECKED: <i>SN</i> APPVD: <i>J.S.</i>	PHILIP F. SPAULDING & ASSOCIATES 65 MARION STREET SEATTLE 4, WASHINGTON	6126-01-15 SHEET 15 OF 25
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**NO. 5 DOUBLE BOTTOM TANK (PORT OR STBD)**  
**Fuel Oil**

FT. - IN.	EVEN KEEL BARRELS	TONS	FT. - IN.	EVEN KEEL BARRELS	TONS
(Continued)					
6 - 0	802.6	122.65			
1	805.3	123.06			
2	808.0	123.47			
3	810.7	123.88			
4	812.6	124.18			
5	814.6	124.47			
6	816.3	124.77			
7	818.3	125.04			
8	820.1	125.32			
9	822.0	125.62			
10	823.6	125.86			
11	825.6	126.16			
7 - 0	827.6	126.46			
1	829.2	126.70			
2	830.8	126.95			
3	832.5	127.22			
4	834.2	127.47			
5	835.8	127.71			
6	837.4	127.96			
7	838.4	128.12			
8	839.7	128.31			
9	840.3	128.50			
10	842.2	128.69			
11	843.6	128.91			
8 - 0	845.0	129.13			
1	846.3	129.32			
2	847.7	129.53			
3	848.9	129.72			
4	850.0	129.89			
5	851.2	130.08			
6	852.5	130.27			
7	853.9	130.49			

95% Full Tank - 123.96 Tons or 811.07 Bbls Fuel Oil  
Full Tank - 130.49 Tons or 853.9 Bbls Fuel Oil

**FUEL OIL SETTLING TANK**  
Outboard

FT. - IN.	EVEN KEEL GALLONS	TONS	FT. - IN.	EVEN KEEL GALLONS	TONS
0 - 0	8	.03	6 - 0	1525	5.54
3	47	.17	3	1614	5.87
6	88	.32	6	1707	6.21
9	129	.47	9	1796	6.53
1 - 0	173	.63	7 - 0	1889	6.87
3	217	.79	3	1982	7.21
6	269	.98	6	2075	7.55
9	317	1.15	9	2172	7.90
2 - 0	362	1.31	8 - 0	2269	8.25
3	421	1.53	3	2369	8.61
6	481	1.75	6	2470	8.98
9	536	1.95	9	2570	9.34
3 - 0	596	2.17	9 - 0	2670	9.71
3	655	2.38	3	2767	10.06
6	729	2.65	6	2868	10.43
9	796	2.89	9	2968	10.79
4 - 0	863	3.14	10 - 0	3065	11.14
3	941	3.42	3	3161	11.49
6	1008	3.66	5 1/2	3233	11.75
9	1082	3.93			
5 - 0	1168	4.25			
3	1257	4.57			
6	1346	4.90			
9	1436	5.22			

95% Full Tank - 11.16 Tons or 3070 Gals Fuel Oil  
Full Tank - 11.75 Tons or 3233 Gals Fuel oil

CALC. *J.W. Kenna*  
CHECKED: *GU*  
APPVD. *J.L.*

PHILIP F. SPAULDING & ASSOCIATES  
65 MARION STREET  
SEATTLE, 4, WASHINGTON

6126-01-15  
SHEET 17 OF 25

## FUEL OIL SETTLING TANK

### Inboard

FT. - IN.	EVEN KEEL GALLONS	TONS	FT. - IN.	EVEN KEEL GALLONS	TONS
0 - 0	12	.04	6 - 0	1854	6.74
3	89	.32	3	1931	7.02
6	166	.60	6	2008	7.30
9	243	.88	9	2085	7.58
1 - 0	319	1.16	7 - 0	2162	7.86
3	396	1.44	3	2238	8.14
6	473	1.72	6	2315	8.42
9	550	2.00	9	2392	8.70
2 - 0	626	2.29	8 - 0	2469	8.98
3	703	2.58	3	2545	9.26
6	780	2.84	6	2622	9.53
9	857	3.11	9	2699	9.81
3 - 0	933	3.39	9 - 0	2776	10.09
3	1010	3.67	3	2852	10.37
6	1087	3.95	6	2930	10.65
9	1164	4.23	9	3008	10.93
4 - 0	1240	4.51	10 - 0	3085	11.21
3	1317	4.79	3	3163	11.48
6	1394	5.07	5 1/2	3233	11.75
9	1471	5.35			
5 - 0	1548	5.63			
3	1624	5.91			
6	1701	6.18			
9	1778	6.46			

95% Full Tank - 11.16 Tons or 3069 Gals Fuel Oil  
 Full Tank - 11.75 Tons or 3233 Gals Fuel Oil

### DIESEL OIL STORAGE TANK

FT. - IN.	EVEN KEEL GALLONS	TONS	FT. - IN.	EVEN KEEL GALLONS	TONS
0 - 0	2	.01	5 - 0	8871	28.70
3	60	.19	3	9398	30.40
6	1195	.63	6	9925	32.11
9	406	1.31	9	10451	33.81
1 - 0	695	2.25	6 - 0	10978	35.52
3	1060	3.43	3	11505	37.22
6	1504	4.86	6	12031	38.92
9	2026	6.55	9	12558	40.63
2 - 0	2552	8.26	7 - 0	13084	42.33
3	3079	9.96	3	13611	44.03
6	3605	11.66	6	14138	45.74
9	4132	13.37	9	14664	47.44
3 - 0	4659	15.07	8 - 0	15191	49.15
3	5185	16.78	3	15717	50.85
6	5712	18.48	6	16244	52.55
9	6238	20.18	9	16771	54.25
4 - 0	6765	21.89	9 - 0	17297	55.96
3	7292	23.59	2	17638	57.06
6	7818	25.29			
9	8345	27.00			

95% Full Tank - 54.21 Tons or 16765 Gals Diesel Oil  
 Full Tank - 57.06 Tons or 17638 Gals Diesel Oil

CALC. *J.W. Kerns*  
 CHECKED: *GN*  
 APPVD. *J.S.*

PHILIP F. SPAULDING & ASSOCIATES  
 65 MARION STREET  
 SEATTLE 4, WASHINGTON

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## MAIN ENGINE LUB. OIL STORAGE TANK

FT. - IN.	EVEN KEEL GALLONS	TONS	FT. - IN.	EVEN KEEL GALLONS	TONS
0 - 0	6	.02	8 - 0	1798	6.15
3	30	.10	3	1884	6.45
6	56	.19	6	1970	6.74
9	84	.29	9	2055	7.03
1 - 0	112	.38	9 - 0	2141	7.33
3	142	.48	3	2223	7.61
6	179	.61	6	2309	7.90
9	213	.73	9	2395	8.20
2 - 0	242	.83	10 - 0	2477	8.48
3	287	.98	3	2559	8.76
6	332	1.14	5 1/2	2627	8.99
9	373	1.28			
3 - 0	418	1.43			
3	463	1.58			
6	524	1.79			
9	575	1.97			
4 - 0	627	2.14			
3	690	2.36			
6	742	2.54			
9	802	2.74			
5 - 0	873	2.99			
3	947	3.24			
6	1022	3.50			
9	1097	3.75			
6 - 0	1171	4.01			
3	1246	4.26			
6	1324	4.53			
9	1399	4.79			
7 - 0	1477	5.06			
3	1555	5.32			
6	1634	5.59			
9	1716	5.87			

95% Full Tank - 8.54 Tons or 2492 Gals  
Lub. Oil  
Full Tank - 8.99 Tons or 2627 Gals.  
Lub. Oil

CALC: *J.W. Kerns*  
 CHECKED: *GN*  
 APPVD: *J.S.*

PHILIP F. SPAULDING & ASSOCIATES  
 65 MARION STREET  
 SEATTLE, 4, WASHINGTON

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**AUX. ENGINE LUB. OIL STORAGE TANK**

FT. - IN.	EVEN KEEL GALLONS	TONS	FT. - IN.	EVEN KEEL GALLONS	TONS
0 - 0	2	.01	6 - 0	353	1.21
3	17	.06	3	368	1.26
6	31	.10	6	382	1.31
9	46	.16	9	397	1.36
1 - 0	61	.21	7 - 0	411	1.41
3	75	.26	3	426	1.46
6	90	.31	6	441	1.51
9	105	.36	9	455	1.56
2 - 0	119	.41	8 - 0	470	1.61
3	134	.46	3	484	1.66
6	148	.51	6	499	1.71
9	163	.56	9	514	1.76
3 - 0	178	.61	9 - 0	528	1.81
3	193	.66	3	543	1.86
6	207	.71	6	558	1.91
9	222	.76	9	572	1.96
4 - 0	236	.81	10 - 0	587	2.01
3	251	.86	3	601	2.05
6	265	.91	5 1/2	616	2.11
9	280	.96			
5 - 0	295	1.01			
3	309	1.06			
6	324	1.11			
9	338	1.16			

**95% Full Tank - 2.00 Tons or 585 Gals. Lub. Oil**  
**Full Tank - 2.11 Tons or 616 Gals. Lub. Oil**

## DIESEL OIL SERVICE TANK

FT. - IN.	EVEN KEEL GALLONS	TONS	FT. - IN.	EVEN KEEL GALLONS	TONS
0 - 0	7	.02	6 - 0	1092	3.53
3	52	.17	3	1137	3.68
6	97	.31	6	1182	3.82
9	143	.46	9	1228	3.97
1 - 0	188	.61	7 - 0	1273	4.12
3	233	.75	3	1318	4.26
6	283	.91	6	1363	4.41
9	323	1.05	9	1408	4.56
2 - 0	369	1.19	8 - 0	1454	4.70
3	415	1.34	3	1499	4.85
6	459	1.49	6	1544	4.99
9	504	1.63	9	1589	5.14
3 - 0	549	1.78	9 - 0	1634	5.29
3	595	1.92	3	1680	5.43
6	640	2.07	6	1725	5.58
9	685	2.22	9	1770	5.73
4 - 0	730	2.36	10 - 0	1815	5.87
3	775	2.51	3	1860	6.02
6	820	2.65	5 1/2	1898	6.14
9	866	2.80			
5 - 0	911	2.95			
3	956	3.09			
6	1001	3.24			
9	1047	3.39			

95% Full Tank - 5.83 Tons or 1803 Gals. Diesel Oil  
 Full Tank - 6.14 Tons or 1898 Gals. Diesel Oil

CALC. *J.W. Kern*  
 CHECKED: *GN*  
 APPVD: *J.S.*

PHILIP F. SPAULDING & ASSOCIATES  
 65 MARION STREET  
 SEATTLE 4, WASHINGTON

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 SHEET 22 OF 25

## LUB. OIL SETTLING TANK

FT. - IN.	EVEN KEEL GALLONS	TONS	FT. - IN.	EVEN KEEL GALLONS	TONS
0 - 0	7	.02			
3	51	.17			
6	95	.32			
9	139	.47			
1 - 0	183	.62			
3	226	.77			
6	270	.92			
9	314	1.07			
2 - 0	358	1.22			
3	402	1.37			
6	446	1.52			
9	489	1.67			
3 - 0	533	1.82			
3	577	1.97			
6	621	2.12			
9	665	2.27			
4 - 0	709	2.42			
3	752	2.57			
6	796	2.72			
9	855	2.93			
5 - 0	884	3.02			
3	928	3.18			
5 1/2	965	3.30			

**95% Full Tank - 3.13 Tons or 917 Gals Lub. Oil**  
**Full Tank - 3.30 Tons or 965 Gals Lub. Oil**

CALC. <i>JW Kanna</i> CHECKED: <i>GN</i> APPVD. <i>J.S.</i>	PHILIP F. SPAULDING & ASSOCIATES 65 MARION STREET SEATTLE 4, WASHINGTON	<b>6126-01-15</b>  SHEET <b>23</b> OF <b>25</b>
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### CENTRIFUGED LUB. OIL TANK

FT. - IN.	EVEN KEEL GALLONS	TONS	FT. - IN.	EVEN KEEL GALLONS	TONS
0 - 0	5	.02	7 - 0	892	3.05
3	37	.13	3	923	3.16
6	68	.23	6	955	3.27
9	100	.34	9	987	3.38
1 - 0	132	.45	8 - 0	1018	3.48
3	163	.56	3	1050	3.59
6	195	.67	6	1082	3.70
9	227	.78	9	1113	3.81
2 - 0	258	.88	9 - 0	1145	3.92
3	290	.99	3	1177	4.03
6	322	1.10	6	1208	4.13
9	353	1.21	9	1240	4.24
3 - 0	385	1.32	10 - 0	1270	4.35
3	417	1.43	3	1304	4.46
6	448	1.53	5 1/2	1330	4.57
9	480	1.64			
4 - 0	512	1.75			
3	543	1.86			
6	575	1.97			
9	607	2.08			
5 - 0	638	2.18			
3	670	2.29			
6	702	2.40			
9	733	2.51			
6 - 0	765	2.62			
3	797	2.73			
6	828	2.83			
9	860	2.94			

95% Full Tank - 4.34 Tons or 1263 Gals. Lub. Oil  
 Full Tank - 4.57 Tons or 1330 Gals Lub. Oil

CALC. <i>J.W. Kerner</i> CHECKED: <i>GN</i> APPVD. <i>J.S.</i>	PHILIP F. SPAULDING & ASSOCIATES 65 MARION STREET SEATTLE 4, WASHINGTON	6126-01-15  SHEET 24 OF 25
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**FRESH WATER TANK  
P/S**

FT. - IN.		EVEN KEEL GALLONS	TONS	FT. - IN.		EVEN KEEL GALLONS	TONS
0 -	0	0	0				
	6	246	.91				
1 -	0	688	2.56				
	6	1247	4.64				
2 -	0	1896	7.06				
	6	2614	9.73				
3 -	0	3388	12.61				
	6	4207	15.66				
4 -	0	5065	18.86				
	6	5950	22.15				
5 -	0	6856	25.53				
	6	7779	28.97				
6 -	0	8730	32.51				
	6	9644	35.91				
7 -	0	10,577	39.38				
	6	11,499	42.82				
8 -	0	12,407	46.20				
	6	13,292	49.50				
9 -	0	14,149	52.69				
	6	14,968	55.74				
10 -	0	15,743	58.62				
	6	16,461	61.30				
11 -	0	17,109	63.71				
	6	17,699	65.79				
12 -	0	18,111	67.44				
	6	18,360	68.37				

**98% Full Tank - 18,100 Gals F.W.**

**Full Tank - 18,360 Gals F.W.**

CALC. *J.W. R...*  
 CHECKED *J.G.N.*  
 APPVD. *J.L.*

PHILIP F. SPAULDING & ASSOCIATES  
 65 MARION STREET  
 SEATTLE 4, WASHINGTON

**6126-01-15**

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