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K-5m Weight Estimate Notes

1. Origin is at Station 0, centerline, and 700 DWL.
2. LCG is meters aft of origin. TCG is meters to starboard of origin (distances to port are negative). VCG is meters above origin (distances below 700 DWL are negative).
3. Weights are kilograms.
4. The weight estimate calculation that follows is for reference purposes only and may not be representative of the final weight estimate of the vessel.



**WEIGHT ESTIMATE**

Vessel:	K-5m				Rev:	-
<b>STRUCTURE</b>		Kg	Tonnes	LCG	TCG	VCG
	Subtotal	532	0.53	3.18	0.00	0.15
Margin =	15.0%	80	0.08			
	<b>Total</b>	<b>612</b>	<b>0.61</b>	<b>3.18</b>	<b>0.00</b>	<b>0.15</b>
Item	Qty	Unit Wt	Weight	LCG	TCG	VCG
Hull Planking	19.54	10.63	208	3.05	0.00	0.06
Deck and Cockpit	11.84	6.85	81	3.37	0.00	0.59
Deck Beams	24.62	1.91	47	3.37	0.00	0.59
Watertight Bulkheads	3.70	9.00	33	3.40	0.00	0.19
Main Bulkhead	1.10	9.00	10	2.00	0.00	0.21
Bonding	18.80	0.44	8	3.08	0.00	0.19
Sheer Clamp	17.46	0.00	0	3.12	0.00	0.66
Floors	4.00	1.15	5	2.75	0.00	-0.45
Rudder Stock	1.50	9.72	15	5.48	0.00	0.13
Rudder Blade	1.30	5.50	7	5.82	0.00	-0.42
Heavy Frames	9.99	1.81	18	3.00	0.00	-0.15
Floors	7.54	2.04	15	3.00	0.00	-0.26
Bow Frame	1.91	0.85	2	0.25	0.00	0.23
Fwd Frame	2.85	0.95	3	1.50	0.00	-0.03
Aft Frame	1.66	0.64	1	6.00	0.00	0.21
Keelson	9.10	8.75	80	2.80	0.00	-0.13

**WEIGHT ESTIMATE**

Vessel: K-5m					Rev: -	
<b>RIG AND HARDWARE</b>		Kg	Tonnes	LCG	TCG	VCG
	Subtotal	129	0.13	2.69	0.00	2.75
Margin =	5.0%	6	0.01			
	<b>Total</b>	<b>136</b>	<b>0.14</b>	<b>2.69</b>	<b>0.00</b>	<b>2.75</b>
Item	Qty	Unit Wt	Weight	LCG	TCG	VCG
Mast	10.38	3.23	34	2.24	0.00	5.85
Boom	3.30	2.23	7	3.82	0.00	1.84
Spreaders	1.90	0.61	1	2.37	0.00	4.50
Shrouds and Stays	44.70	0.24	11	2.54	0.00	4.65
Turnbuckles	6.00	0.58	3	2.40	0.00	0.64
Chainplates	4.00	0.75	3	2.40	0.00	0.70
Running Rigging	150.00	0.07	11	3.10	0.00	1.90
Mainsail	14.45	0.26	4	3.37	0.00	4.79
100% Genoa	10.29	0.28	3	1.17	0.00	3.23
Primary Winches	2.00	2.10	4	3.00	0.00	0.65
Halyard Winches	2.00	1.30	3	3.00	0.00	0.65
Boom Vang	1.00	3.18	3	2.91	0.00	1.24
Mainsheet	1.00	3.20	3	4.25	0.00	1.20
Genoa Track / Cars	2.00	0.77	2	2.80	0.00	0.69
Misc Hardware	1.00	20.34	20	3.00	0.00	0.69
Extra Sails	2.00	2.50	5	1.40	0.00	0.15
Bow Pulpit	1.00	2.35	2	-0.67	0.00	0.96
Stern Pulpit	1.00	2.35	2	6.85	0.00	0.85
Stanchions	6.00	0.75	5	3.04	0.00	0.91
Lifelines	24.80	0.05	1	3.04	0.00	1.02
Toe Rail	3.90	0.65	3	1.20	0.00	0.70

**WEIGHT ESTIMATE**

Vessel:	K-5m				Rev:	-
<b>ELECTRICAL AND MECHANICAL</b>		Kg	Tonnes	LCG	TCG	VCG
	Subtotal	84	0.08	2.52	0.00	0.11
Margin =	5.0%	4	0.00			
	<b>Total</b>	<b>88</b>	<b>0.09</b>	<b>2.52</b>	<b>0.00</b>	<b>0.11</b>
Item	Qty	Unit Wt	Weight	LCG	TCG	VCG
Batteries	2.00	25.00	50	1.72	0.00	0.02
Navigation Lights	1.00	0.55	1	3.04	0.00	1.14
Cabin Lights	1.00	0.01	0	2.75	0.00	0.61
Switch Panel	1.00	0.45	0	3.50	0.00	0.20
Battery Wiring	6.50	0.07	0	3.65	0.00	-0.10
DC Wiring	15.00	0.02	0	3.25	0.00	0.50
Knotlog	1.00	2.00	2	3.00	0.00	0.50
Misc Electrical	1.00	5.00	5	3.10	0.00	0.50
Tiller	1.00	1.00	1	5.10	0.00	0.64
Tiller Head	1.00	3.00	3	6.50	0.00	0.71
Rudder Bearings	2.00	1.00	2	5.71	0.00	0.25
Bilge Pump	1.00	1.85	2	3.75	0.00	0.50
Portable Pump	1.00	1.22	1	1.25	0.00	0.00
Bilge Pump Piping	1.00	16.00	16	3.35	0.00	0.00

**WEIGHT ESTIMATE**

Vessel:	K-5m				Rev:	-
<b>OUTFIT</b>		Kg	Tonnes	LCG	TCG	VCG
	Subtotal	72	0.07	2.90	0.00	0.16
Margin =	10.0%	7	0.01			
	<b>Total</b>	<b>79</b>	<b>0.08</b>	<b>2.90</b>	<b>0.00</b>	<b>0.16</b>
Item	Qty	Unit Wt	Weight	LCG	TCG	VCG
Life Jackets	4.00	1.00	4	3.00	0.00	-0.20
Life Ring and Throw Line	1.00	3.20	3	6.85	0.00	0.85
Flares	2.00	1.40	3	3.75	0.00	-0.10
Horn	1.00	1.00	1	3.75	0.00	-0.10
First Aid Kit	1.00	1.00	1	3.75	0.00	-0.10
Anchor and Rode	1.00	18.20	18	0.25	0.00	0.25
Fenders	2.00	1.10	2	6.00	0.00	0.36
Dock Lines	18.00	0.25	5	6.00	0.00	0.36
Flashlights	2.00	0.50	1	3.75	0.00	-0.10
Tool Set	1.00	9.10	9	3.75	0.00	-0.10
VHF Radio	1.00	1.63	2	2.00	0.00	0.35
Compass	1.00	1.10	1	3.50	0.00	0.50
Pipe Berths	2.00	7.50	15	3.00	0.00	0.15
Ice Chest (empty)	1.00	2.27	2	3.75	0.00	0.00

**WEIGHT ESTIMATE**

Vessel: K-5m					Rev:	-	
<b>LIGHT SHIP</b>		Kg	Tonnes	LCG	TCG	VCG	
	Subtotal	2035	2.04	3.06	0.00	-0.32	
	Margin = 2.0%	41	0.04			0.025	
	<b>Total</b>	2076	<b>2.08</b>	<b>3.06</b>	<b>0.00</b>	<b>-0.291</b>	
<b>Item</b>	<b>Weight</b>	<b>LCG</b>	<b>L.MOM</b>	<b>TCG</b>	<b>T.MOM</b>	<b>VCG</b>	<b>V.MOM</b>
STRUCTURE	612	3.18	1946	0.00	0	0.15	90
RIG HDW	136	2.69	365	0.00	0	2.75	374
ELEC MECH	88	2.52	222	0.00	0	0.11	10
OUTFIT	79	2.90	230	0.00	0	0.16	13
TANKS	0	0.00	0	0.00	0	0.00	0
Additional Items:							
BALLAST	1116	3.10	3460	0.00	0	-1.01	-1127
Deadwood	4	2.81	11	0.00	0	-0.60	-2



**WEIGHT ESTIMATE**

Vessel:		K-5m					Rev:	-	
<b>MIN SAILING COND</b>			Kg	Tonnes	LCG	TCG	VCG		
		Subtotal	2160	2.16	3.12	0.00	-0.24		
Margin =		0.0%	0	0.00					
		<b>Total</b>	<b>2160</b>	<b>2.16</b>	<b>3.12</b>	<b>0.00</b>	<b>-0.243</b>		
Item	%	Weight	LCG	L.MOM	TCG	T.MOM	VCG	V.MOM	
LIGHT SHIP		2076	3.06	6359	0.00	0	-0.29	-604	
FUEL:									
WATER:									
SEWAGE:									
LUBE OIL:									
Crew and effects	33	84	4.50	378	0.00	0	0.94	79	
Galley stores	0	0	3.75	0	0.00	0	0.00	0	
<b>MISSION LOADS:</b>									
Autopilot		0.00	5.25	0	0.00	0	0.64	0	
Mini Galley		0.00	2.11	0	0.00	0	0.35	0	
Misc Stores		0.00	3.00	0	0.00	0	0.00	0	
EPIRB		0.00	4.00	0	0.00	0	0.27	0	
Liferaft		0.00	3.75	0	0.00	0	0.30	0	

**WEIGHT ESTIMATE**

Vessel:		K-5m				Rev:	-	
<b>HALF LOAD</b>			Kg	Tonnes	LCG	TCG	VCG	
		Subtotal	2256	2.26	3.17	0.00	-0.20	
	Margin =	0.0%	0	0.00				
		<b>Total</b>	2256	<b>2.26</b>	<b>3.17</b>	<b>0.00</b>	<b>-0.198</b>	
Item	%	Weight	LCG	L.MOM	TCG	T.MOM	VCG	V.MOM
LIGHT SHIP		2076	3.06	6359	0.00	0	-0.29	-604
FUEL:								
WATER:								
SEWAGE:								
LUBE OIL:								
Crew and effects	67	169	4.50	760	0.00	0	0.94	159
Galley stores	50	6	3.75	23	0.00	0	0.00	0
<b>MISSION LOADS:</b>								
Autopilot		0.00	5.25	0	0.00	0	0.64	0
Mini Galley		0.00	2.11	0	0.00	0	0.35	0
Misc Stores		5.00	3.00	15	0.00	0	0.00	0
EPIRB		0.00	4.00	0	0.00	0	0.27	0
Liferaft		0.00	3.75	0	0.00	0	0.30	0

**WEIGHT ESTIMATE**

Vessel:		K-5m				Rev:	-	
<b>FULL LOAD</b>			Kg	Tonnes	LCG	TCG	VCG	
		Subtotal	2361	2.36	3.22	0.00	-0.15	
	Margin =	0.0%	0	0.00				
		<b>Total</b>	<b>2361</b>	<b>2.36</b>	<b>3.22</b>	<b>0.00</b>	<b>-0.154</b>	
<b>Item</b>	<b>%</b>	<b>Weight</b>	<b>LCG</b>	<b>L.MOM</b>	<b>TCG</b>	<b>T.MOM</b>	<b>VCG</b>	<b>V.MOM</b>
LIGHT SHIP		2076	3.06	6359	0.00		-0.29	-604
FUEL:								
WATER:								
SEWAGE:								
LUBE OIL:								
Crew and effects	100	252	4.50	1134	0.00	0	0.94	237
Galley stores	100	12	3.75	45	0.00	0	0.00	0
<b>MISSION LOADS:</b>								
Autopilot		2.27	5.25	12	0.00	0	0.64	1
Mini Galley		0.68	2.11	1	0.00	0	0.35	0
Misc Stores		10.00	3.00	30	0.00	0	0.00	0
EPIRB		0.70	4.00	3	0.00	0	0.27	0
Liferaft		7.70	3.75	29	0.00	0	0.30	2

**WEIGHT ESTIMATE**

Vessel:		K-5m					Rev:	-	
<b>SINGLE HANDED COND</b>			Kg	Tonnes	LCG	TCG	VCG		
		Subtotal	2303	2.30	3.09	0.00	-0.22		
Margin =		0.0%	0	0.00					
		<b>Total</b>	<b>2303</b>	<b>2.30</b>	<b>3.09</b>	<b>0.00</b>	<b>-0.220</b>		
Item	%	Weight	LCG	L.MOM	TCG	T.MOM	VCG	V.MOM	
LIGHT SHIP		2076	3.06	6359	0.00		-0.29	-604	
FUEL:									
WATER:									
SEWAGE:									
LUBE OIL:									
Crew and effects	33	84	4.50	378	0.00	0	0.94	79	
Galley stores	100	12	3.75	45	0.00	0	0.00	0	
<b>MISSION LOADS:</b>									
Autopilot		2.27	5.25	12	0.00	0	0.64	1	
Mini Galley		0.68	2.11	1	0.00	0	0.35	0	
Misc Stores		10.00	3.00	30	0.00	0	0.00	0	
EPIRB		0.70	4.00	3	0.00	0	0.27	0	
Liferaft		7.70	3.75	29	0.00	0	0.30	2	
Water		80.00	1.75	140	0.00	0	0.00	0	
Food		10.00	2.75	28	0.00	0	0.15	2	
SSB Radio		8.00	2.11	17	0.00	0	0.35	3	
Solar Panel		7.71	6.50	50	0.00	0	1.11	9	
AIS		3.75	3.65	14	0.00	0	0.32	1	