

**Preliminary Weight Estimate
Displacement/Weight Comparison
Longitudinal Trim Analysis**

Concept #1: 24" Stern Excavation

Pacific Mariner 85

January 8, 2003

Revisions

- January 24, 2003 Shift LCG of diesel tanks 6" aft, shift water tanks fwd, shift crew quarters LCGs 6" aft.
- January 25, 2003 Shift LCG of hot tub, BBQ, FB wetbar, davit 2" aft from GM original.
Shift MS king berth, joinery on aft MS BHD 6" aft from GM original.
- March 17, 2003 Changed LCF to rhino value to 53.16' aft of station 0 from 52.23'
Add percentage of RWL feature for LCB and LCF in trim analysis
- April 1, 2003 shift LCG of 12v2000's .71' aft (new location based on accurate LCG info from Detroit)
- April 10, 2003 increase topside shell weight to 3.4psf (from 2.7psf)
increase transom shell weight to 3.4psf (from 2.7psf)
reduce margin in hull category by 1200lbs to 2300 lbs (result of increasing topside and transom psf weights)
- June 18, 2003 LCB moved to 51.94' aft station 0 from Phaser output; displacement at RWL increased to 141,574 lbs from Phaser output

Notes:

1. All units are in ft. and/or lbs. unless otherwise noted (ie. glazing)
2. The origin from which all centers are measured is at the intersection of station 0, the longitudinal CL and the BL, 4' below the reference WL.
3. The origin used in this weight sheet was determined by Greg Marshall.

Summary of Total Vessel Weights	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments
Ready for Sea	144,404	51.66	0.07	7.90	7,460,609	9,716	1,140,439
Half Range	135,704	51.34	0.07	7.91	6,967,126	9,716	1,073,675
Full Range	129,576	51.03	0.07	8.02	6,612,869	9,716	1,039,007
Heavy Ship	146,068	51.55	0.07	7.83	7,529,249	9,716	1,143,767
Light Ship	123,676	51.11	0.08	8.27	6,320,837	9,716	1,023,103

Summary of Weight Categories

Hull	22,925	46.0	0.0	4.5	1,053,763	0	102,346
Hull Outfit	3,837	57.8	0.0	9.6	221,660	0	36,958
Decks and Superstructure	11,263	46.1	-0.1	15.2	518,823	-1,200	171,530
Decks and Superstructure Outfit	9,350	53.5	0.0	16.7	500,171	300	156,344
Machinery	22,202	63.0	0.0	4.5	1,399,676	0	100,494
Mechanical	11,984	45.1	0.7	6.2	540,632	8,766	73,792
Electrical	10,272	58.8	-1.1	8.2	603,548	-11,308	83,849
Accommodations/Joinery	27,610	43.5	0.5	9.2	1,199,930	13,157	255,138
Equipment/Accessories	4,233	66.8	0.0	10.1	282,635	0	42,652
Tankage (RFS)	20,728	55.0	0.0	5.7	1,139,772	0	117,338
Tankage (Half Range)	12,028	53.7	0.0	4.2	646,289	0	50,572
Tankage (Full Range)	5,900	49.5	0.0	2.7	292,032	0	15,904
Tankage (Heavy Ship)	22,392	54.0	0.0	5.4	1,208,412	0	120,664

Comparison of Displacement vs. Weight

Displacement (@ reference WL)	141,574 lbs.
Total Weight:	
Ready for Sea	144,404 lbs.
Half Range	135,704 lbs.
Full Range	129,576 lbs.
Heavy Ship	146,068 lbs.
Light Ship	123,676 lbs.

Difference:	
Ready for Sea	-2,830 lbs.
Half Range	5,870 lbs.
Full Range	11,998 lbs.
Heavy Ship	-4,494 lbs.
Light Ship	17,898 lbs.

Longitudinal Trim Analysis w/ 24" stern excavation

Hydrostatic Summary :

LOA (including swimstep)	85.75 ft.
LRWL	76.5 ft.
Displacement (@ reference WL)	141,574 lbs.
Displacement (@ reference WL)	63.2 LT
DLR	141
PP1"	5,900 lbs.
Moment to trim 1"	21,753 ft-lbs
LCB (@ reference WL)	51.94 ft. from station 0
LCF (@ reference WL)	52.93 ft. from station 0

LCG Ready for Sea	51.66	"
LCG Half Range	51.34	"
LCG Full Range	51.03	"
LCG Heavy Ship	51.55	"
LCG Light Ship	51.11	"

Trim Arm (difference between LCB and LCG)

Ready for Sea	-0.28	ft
Half Range	-0.60	"
Full Range	-0.91	"
Heavy Ship	-0.39	"
Light Ship	-0.83	"

Longitudinal Trim Moments (trim arm x displacement at that loading condition)

Ready for Sea	-39,739	ft-lbs
Half Range	-81,345	"
Full Range	-117,313	"
Heavy Ship	-57,527	"
Light Ship	-102,899	"

Moment to Trim 1" 21,753 ft-lbs

Total Longitudinal Trim:		Distribution of Trim	
Positive=stern down, Negative=bow down		Bow	Stern
Ready for Sea	-1.83 in.	1.09 in.	0.74 in.
Half Range	-3.74 "	2.22 "	1.52 "
Full Range	-5.39 "	3.20 "	2.19 "
Heavy Ship	-2.64 "	1.57 "	1.07 "
Light Ship	-4.73 "	2.81 "	1.92 "

SYSTEM	SUB-ASSEMBLY	Manufacturer	Model # / Size	Material	Quantity	Comments	Thk,width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (psf, pcf)	Wt./Unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments	
HULL																				
HULL SHELL																				
	Bottom Shell incl. tunnels	PMI	FRP			4(1) 1.5 mat + (2) 24oz v		1318			4.84	6379.12	6379.12	47.91	0.00	2.16	305.624	0	13.779	
	Topside shell	PMI	Sandwich			3/4" Airex/2x24wr gel/skin		1480			3.40	5032.00	5032.00	40.92	0.00	8.23	205.909	0	41.413	
	Hull transom to end of step	PMI	Sandwich			3/4" Airex/2x24wr gel/skin		81			3.40	275.40	275.40	84.25	0.00	4.00	23.202	0	1.102	
	ER doubler	PMI	FRP			2x24wr 1.5mat		336			0.94	315.84	315.84	61.75	0.00	1.58	19.503	0	500	
	centerline doubler	PMI	FRP			2x24wr 1.5mat		260	86x3		0.94	244.40	244.40	37.00	0.00	1.25	9.043	0	306	
	chine doubler	PMI	FRP			1 2x24wr 1.5mat		304	152x2		0.94	285.76	285.76	37.00	0.00	3.00	10.573	0	857	
	Anchor locker doubler	PMI	FRP			1 2x24wr 1.5mat		56	14x4		0.94	52.64	52.64	3.75	0.00	5.50	1.97	0	290	
STRUCTURAL BULKHEADS																				
	BULKHEAD FR 7.5	PMI	Sandwich			1 5lb 2" Core cell 2x18wr		40			2.25	90.00	90	7.50	0.00	10.83	675	0	975	
	Bulkhead tabbing - Incl deck tab	PMI	FRP			1 6" x24 and 8" x2415		35			2.50	87.50	87.5	7.50	0.00	10.83	656	0	948	
	BULKHEAD FR 22	PMI	Sandwich			1 5lb 2" Core cell 2x18wr		44			2.25	99.00	99	7.50	0.00	10.83	743	0	1,073	
	Bulkhead tabbing - Incl deck tab	PMI	FRP			1 6" x24 and 8" x2415		30			2.50	75.00	75	7.50	0.00	10.83	563	0	813	
	BULKHEAD FR 36	PMI	Plywood			1 3/4" and 1/2"		170			3.75	637.50	637.5	36.00	0.00	6.25	22.950	0	3,984	
	Bulkhead tabbing - Incl deck tab	PMI	FRP			6" x18 and 8" x1808		56			2.50	140.00	140.00	36.00	0.00	6.25	5.040	0	875	
	BULKHEAD FR 53.5	PMI	Sandwich			1 5lb 2" Core cell 2x18wr		230			2.25	517.50	517.5	53.50	0.00	5.42	27.686	0	2,803	
	Bulkhead tabbing - Incl deck tab	PMI	FRP			6" x18 and 8" x1808		56			2.50	140.00	140.00	53.50	0.00	5.42	7.490	0	758	
	BULKHEAD FR 70	PMI	Sandwich			1 5lb 2" Core cell 2x18wr		168			2.25	378.00	378	70.00	0.00	5.42	26.460	0	2,048	
	Bulkhead tabbing - Incl deck tab	PMI	FRP			6" x18 and 8" x1808		56			2.50	140.00	140.00	70.00	0.00	5.42	9.800	0	758	
LONGITUDINAL FRAMING																				
Inboard Bottom Stringers (P&S):																				
	Fwd end-BHD FR 36		Cored Hat Section			5" x 6", 5 lb core, 2(1) 1.5 + (2) 24		56.0			5.57	311.92	311.92	25.00	0.00	2.00	7.798	0	624	
	BHD FR 36-BHD FR 53.5		Cored Hat Section			5" x 6", 5 lb core, 2(1) 1.5 + (2) 24		36.0			5.57	200.52	200.52	45.00	0.00	1.50	9.023	0	301	
	BHD FR 53.5-BHD FR 70 (ER)		Cored Hat Section			5" x 12", 5 lb core, 2(1) 1.5 + (2) 24		32.0			8.50	272.00	272.00	61.50	0.00	1.50	16.728	0	408	
	BHD FR 70 aft end		Cored Hat Section			5" x 6", 5 lb core, 2(1) 1.5 + (2) 24		28.0			5.57	155.96	155.96	77.00	0.00	2.00	12.009	0	312	
Outboard Bottom Stringers (P&S):																				
	Fwd end-BHD FR 36		Cored Hat Section			5" x 6", 5 lb core, 2(1) 1.5 + (2) 24		34.0			5.57	189.38	189.38	26.75	0.00	2.50	5.066	0	473	
	BHD FR 36-BHD FR 53.5		Cored Hat Section			5" x 6", 5 lb core, 2(1) 1.5 + (2) 24		36.0			5.57	200.52	200.52	45.00	0.00	2.00	9.023	0	401	
	BHD FR 53.5-BHD FR 70 (ER)		Cored Hat Section			5" x 12", 5 lb core, 2(1) 1.5 + (2) 24		32.0			8.50	272.00	272.00	61.50	0.00	2.00	16.728	0	544	
	BHD FR 70 aft end		Cored Hat Section			5" x 6", 5 lb core, 2(1) 1.5 + (2) 24		28.0			5.57	155.96	155.96	77.00	0.00	2.50	12.009	0	390	
Topside Stringers (Upper & Lower, P&S):																				
	Fwd end-BHD FR 36		Cored Hat Section			5" x 6", 5 lb core, 2(1) 1.5 + (2) 24		56.0			5.57	311.92	311.92	25.00	0.00	2.00	7.798	0	624	
	BHD FR 36-BHD FR 53.5		Cored Hat Section			5" x 6", 5 lb core, 2(1) 1.5 + (2) 24		36.0			5.57	200.52	200.52	45.00	0.00	1.50	9.023	0	301	
	BHD FR 53.5-BHD FR 70 (ER)		Cored Hat Section			5" x 12", 5 lb core, 2(1) 1.5 + (2) 24		32.0			8.50	272.00	272.00	61.50	0.00	1.50	16.728	0	408	
	BHD FR 70 aft end		Cored Hat Section			5" x 6", 5 lb core, 2(1) 1.5 + (2) 24		28.0			5.57	155.96	155.96	77.00	0.00	2.00	12.009	0	312	
TRANSVERSE BOTTOM FRAMING																				
From Bow:																				
	1		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		14.0			2.50	35.00	35.00	10.50	0.00	3.50	368	0	123	
	2		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		16.0			2.50	40.00	40.00	13.00	0.00	2.50	520	0	169	
	3		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		16.5			2.50	41.25	41.25	17.50	0.00	2.00	722	0	83	
	4		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		13.5			2.50	33.75	33.75	20.50	0.00	2.00	692	0	68	
	5		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		14.0			2.50	35.00	35.00	23.00	0.00	2.00	805	0	70	
	6		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		15.0			2.50	37.50	37.50	25.50	0.00	2.00	956	0	75	
	7		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		16.0			2.50	40.00	40.00	28.25	0.00	2.00	1,130	0	80	
	8		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		16.0			2.50	40.00	40.00	30.75	0.00	2.00	1,230	0	80	
	9		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		16.0			2.50	40.00	40.00	33.50	0.00	2.00	1,340	0	80	
	10		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		17.0			2.50	42.50	42.50	36.00	0.00	2.00	1,530	0	85	
	11		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		17.0			2.50	42.50	42.50	37.75	0.00	2.00	1,604	0	85	
	12		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		18.0			2.50	45.00	45.00	40.00	0.00	2.00	1,800	0	90	
	13		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		18.0			2.50	45.00	45.00	41.75	0.00	2.00	1,879	0	90	
	14		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		18.0			2.50	45.00	45.00	44.00	0.00	2.00	1,980	0	90	
	15		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		18.0			2.50	45.00	45.00	46.25	0.00	2.00	2,081	0	90	
	16		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	48.50	0.00	2.00	2,304	0	95	
	17		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	50.75	0.00	2.50	2,411	0	119	
	18		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	55.40	0.00	2.50	2,632	0	119	
	19		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	57.60	0.00	2.50	2,736	0	119	
	20		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	60.00	0.00	2.50	2,850	0	119	
	21		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	62.00	0.00	2.50	2,945	0	119	
	22		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	64.25	0.00	2.50	3,052	0	119	
	23		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	66.50	0.00	2.50	3,159	0	119	
	24		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	68.75	0.00	2.50	3,266	0	119	
	25		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	71.25	0.00	2.50	3,384	0	119	
	26		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	73.50	0.00	2.50	3,491	0	119	
	27		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	75.75	0.00	2.50	3,598	0	119	
	28		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	78.00	0.00	2.50	3,705	0	119	
	29		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	80.00	0.00	2.50	3,800	0	119	
	30		Cored Hat Section			3" x 3", 5 lb core, (1) 1.5 + (3) 24		19.0			2.50	47.50	47.50	82.50	0.00	2.50	3,919	0	119	
MISC. STRUCTURE																				
	Hull to deck joint lam		FRP			2x1808		225.0			0.44	99.00	99.00	40.00	0.00	11.25	3,960	0	1,114	
	Topside plywood backing		Plywood	est		3/4" XL Ply						140.00	140.00	60.00	0.00	5.83	5,600	0	817	
	Anchor locker sole		Plywood	est		3/4" XL Ply						35.00	35.00	6.00	0.00	6.50	210	0	298	
	Foam below anchor sole		Pour foam	est		2lb														

SYSTEM	SUB-ASSEMBLY	Manufacturer	Model # / Size	Material	Quantity	Comments	Thk./width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (psf, pcf)	Wt./unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments	
MISC. OUTFIT:																				
	Hottub	Coleman	60		300	gal						8.32	500	62.00	0.00	18.50	31,000	0	9,250	
	Hottub water												2496	62.00	0.00	18.50	154,752	0	46,176	
MARGIN													1500.00	46.00	0.00	16.67	69,000	0	25,000	
SUPERSTRUCTURE OUTFIT TOTALS													9,350	500,171	300	156,344				
MACHINERY																				
PROPULSION	Main Engines	Detroit Diesel	12v2000	VARIES	2	Includes gears/fluid						7200	14400	62.96	0.00	4.08	906,624	0	58,800	
	Engine bed - L angle and flat				4							85	340	62.96	0.00	4.08	21,406	0	1,388	
	Misc seal/bolts/brackets				2							50	100	62.96	0.00	3.33	6,296	0	333	
	Flex. mounts				8							35	280	62.96	0.00	3.33	17,629	0	933	
RUNNING GEAR	Shafts	MH	22HS		2	3" dia.		16.0	24.0			384.48	768.96	72.75	0.00	1.75	55,942	0	1,346	
	Shaft coupler and bolts				2							25	50	67.00	0.00	2.50	3,350	0	125	
	Shaft brushes				5							5	10	67.50	0.00	2.42	675	0	24	
	Shaft seals				2							7	14	68.00	0.00	2.50	952	0	35	
	Stern tubes				2							50	100	70.00	0.00	2.25	7,000	0	225	
	Propellers	Mich	MX500	Nibral	2	S class						180	360	78.00	0.00	1.08	28,080	0	390	
	Prop nuts key and cotter				2							5	10	79.00	0.00	1.00	790	0	10	
	Struts				2							120	240	77.00	0.00	2.17	18,480	0	520	
ER AIR SYS.(Engineered by Delta-T)	Air exhaust fan	DELTA-T		ALUMINUM	2	MOUNTED ABOVE MAIN DECK LEVEL PORT SIDE						47	94	65.00	0.00	12.50	6,110	0	1,175	
	AIR EXHAUST & INTAKE FAN GL DELTA-T				2	MOUNTED ON LOWER EDGE OF FANS						10	20	65.00	0.00	12.50	1,300	0	250	
	AIR EXHAUST FIRE/SMOKE DAMP DELTA-T			ALUMINUM/S.S.	2	PNEUMATICALLY CONTROLLED						22	44	65.00	0.00	12.50	2,860	0	550	
	AIR EXHAUST GRILL DELTA-T			ALUMINUM/COMPOSIT	2	MOUNTED ON AFT FACE OF S.S. AFT PORT						40	80	65.00	0.00	12.50	5,200	0	1,000	
	AIR INTAKE FAN DELTA-T			ALUMINUM	2	MOUNTED ABOVE MAIN DECK LEVEL STBD SIDE						47	94	65.00	0.00	12.50	6,110	0	1,175	
	AIR INTAKE FIRE/SMOKE DAMP DELTA-T			ALUMINUM/S.S.	2	PNEUMATICALLY CONTROLLED						22	44	65.00	0.00	12.50	2,860	0	550	
	AIR INTAKE GRILL DELTA-T			ALUMINUM/COMPOSIT	2	MOUNTED ON AFT FACE OF S.S. AFT STBD						40	80	65.00	0.00	12.50	5,200	0	1,000	
	CONTROLS W/ PENUMATIC DAMP DELTA-T			VARIES	2	CONTROL BOX CHANGES 1 PH TO 3 HP FOR FAN UN						50	100	65.00	0.00	12.50	6,500	0	1,250	
EXHAUST	EXHAUST RISER	DE-ANGELO		S.S. 316 FABRICATED	2							50	100	67.00	0.00	9.00	6,700	0	900	
	EXHAUST WRAP	DE-ANGELO		WRAPPED BLANKET	2							15	30	70.00	0.00	9.00	2,100	0	270	
	EXHAUST HOSE	TRIDENT			2							50	100	70.00	0.00	9.00	7,000	0	900	
	EXHAUST CLAMPS	TRIDENT		S.S. 316	2							10	20	67.00	0.00	9.00	1,340	0	180	
	MUFFLER	COWL INDUSTRIES			2							150	300	77.50	0.00	9.00	23,250	0	2,700	
	EXHAUST OUTLET	SHIPYARD		FRP	2							5	10	80.00	0.00	3.00	800	0	30	
	EXHAUST SW. COOLING SEACK APOLLO			MARELON	2							20	20	80.00	0.00	3.00	1,600	0	60	
	EXH S.W INLET STRAINER	VETUS			2							10	10	64.00	0.00	4.00	640	0	40	
	EXH S.W INLET HOSE	TRIDENT			2							10	10	64.00	0.00	4.00	640	0	40	
COOLING	M.E. COOLING WATER LINES	TRIDENT		RUBBER/WIRE	AS REQ							0	60.00	0.00	4.00	0	0	0		
	M.E. INT. SHUTOFF VALVES AT S APOLLO			S.S.	2							36	72	62.00	0.00	4.00	4,464	0	288	
	GENSET COOLING WATER LINE	TRIDENT		RUBBER/WIRE	AS REQ							0	65.00	0.00	4.00	0	0	0		
	GENSET INT SHUTOFF VALVES APOLLO			S.S.	2							6	12	63.33	0.00	4.00	760	0	48	
	CLAMPS	TRIDENT		S.S. 316	AS REQ							0.5	0.5	63.33	0.00	4.00	32	0	2	
FUEL	1200 gal Aluminum Fuel tanks	Coastline			2							900	1800	55.83	0.00	6.25	100,494	0	11,250	
	Fuel tank floor	PMI		3/4" boat ply			54		2.0			109.62	115	55.83	0.00	3.25	6,420	0	374	
	SUPPLY & RETURN MANIFOLD	SHIPYARD			1							10	10	55.00	0.00	8.00	550	0	80	
	STAINLESS STEEL THREADED I.T.B.D.				10							1	10	55.00	0.00	8.00	550	0	80	
	GENSETS FUEL SUPPLY PIPE	T.B.D.			20							20	400	55.00	0.00	8.00	22,000	0	3,200	
	CLOSE NIPPLE	T.B.D.			13							1	13	55.00	0.00	4.17	715	0	54	
	CLOSE NIPPLE	T.B.D.			1							1	1	55.00	0.00	4.17	55	0	4	
	CLOSE NIPPLE	T.B.D.		AS REQ	1							1	1	55.00	0.00	4.17	55	0	4	
	SEAMLESS PIPE	T.B.D.		AS REQ	200							75	75	52.00	0.00	4.17	3,900	0	313	
	SEAMLESS PIPE	T.B.D.		AS REQ	15							15	15	52.00	0.00	4.17	780	0	63	
	SEAMLESS PIPE	T.B.D.		AS REQ	20							20	20	52.00	0.00	4.17	1,040	0	83	
	SEAMLESS PIPE	T.B.D.		AS REQ	15							15	15	52.00	0.00	4.17	780	0	63	
	2" BALL VALVES	APOLLO			14							15	210	52.00	0.00	4.17	10,920	0	875	
	CLOSE NIPPLE	T.B.D.		AS REQ	1							1	1	52.00	0.00	4.17	52	0	4	
	MAIN ENGINE SUPPLY BALL VA APOLLO				3	THREE PIECE THREADED						1	6	60.00	0.00	4.17	360	0	25	
	GENSETS SUPPLY BALL VALVE APOLLO				6	THREE PIECE THREADED						6	6	60.00	0.00	4.17	396	0	25	
	M.E. FUEL RETURN LIFT CHECK JENKINS				3							5	15	60.00	0.00	4.17	900	0	63	
	2" THREADED TEE	T.B.D.			6							2	12	60.00	0.00	4.17	720	0	50	
	1/2" THREADED TEE	T.B.D.			3							1	3	60.00	0.00	4.17	180	0	13	
	THREADED BUSHING	T.B.D.			2							1	2	60.00	0.00	4.17	120	0	8	
	Main eng. Fuel-water separators	RACOR			1	WITH WATER SENSER AND ALARM						30	30	60.00	0.00	4.17	1,800	0	125	
	Gen fuel-water separators	RACOR			4	WITH WATER SENSER AND ALARM						4	8	60.00	0.00	4.17	480	0	33	
	Emer. Fuel shut off cable	MORSE			1	ROUTE TO AFT DECK PER SHIPYARD INSTRUCT.						10	10	60.00	0.00	4.17	600	0	42	
	3/4" Hose	AEROQUIP			AS REQ	FLEX CONNECTION AT END OF FUEL HOSE						10	10	60.00	0.00	3.17	600	0	42	
	3/8" Hose	AEROQUIP			AS REQ	FLEX CONNECTION AT END OF FUEL HOSE						5	5	60.00	0.00	4.17	300	0	21	
	3/4" Female hose swivel	AEROQUIP			2							0.4	0.8	60.00	0.00	4.17	48	0	3	
	3/8" FEMALE HOSE SWIVEL	AEROQUIP			10							0.4	4	60.00	0.00	4.17	240	0	17	
	3/4" MALE NPT TO MALE FLARE	AEROQUIP			2							0.17	0.34	60.00	0.00	4.17	20	0	1	
	3/8" MALE NPT TO MALE FLARE	AEROQUIP			7							0.15	1.05	60.00	0.00	4.17	63	0	4	
	3/8" FEMALE NPT TO MALE FLARE	AEROQUIP			3							0.1	0.3	60.00	0.00	4.17	18	0	1	
ENGINE ROOM MISC.	E.R. OVERHEAD	SHIPYARD						273	1.0			273	61.00	0.00	4.17	16,653	0	1,138		
	E.R. SIDES	SHIPYARD						216	1.0			216	61.00	0.00	4.17	13,176	0	900		
MARGIN													1000.00	62.00	0.00	5.00	62,000	0	5,000	
MACHINERY TOTALS													22,202	1,399,676	0	100,494				
MECHANICAL																				
STEERING (Jastram engineered system):	PH helm pump	JASTRAM			2							20	40	25.00	0.00	15.00	1,000	0	600	
	PH steering wheel	SHIPYARD			1							20	20	25.00	0.00	15.00	500	0	300	
	FB helm pump											40	41.50	0.00	20.00	1,660	0	800		
	Dist hoses											25	25	50.00	2.50	12.00	1,250	63	300	
	Fluid reservoir											15	70.00	4.00	4.00					

SYSTEM	SUB-ASSEMBLY	Manufacturer	Model # / Size	Material	Quantity	Comments	Thk./width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (psf, pcf)	Wt/unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments
	Stabilizer actuators/lines				2							275	550	50.00	0.00	2.00	27,500	0	1,100
	stabilizer hoses				1							200	50.00	0.00	5.00	10,000	0	1,000	
	stabilizer wire harness				1							50	50.00	0.00	10.00	2,500	0	500	
	Misc. stabilizer components				1							250	50.00	0.00	5.00	12,500	0	1,250	
COMPRESSED AIR:																			
	Air horn	Kah			1	Included in arch weight						0	5	53.00	0.00	25.00	265	0	125
	Air compressor	Kah	SINGLE STAGE 1 HP, #114-3		1							45	45	50.00	8.00	20.00	2,250	360	900
	Air receiver	SPEEDAIRE			1							25	25	50.00	8.00	20.00	1,250	200	500
	Compressed air outlets				2							1	2	50.00	8.00	20.00	100	16	40
	Air piping				1							20	20	50.00	0.00	22.92	1,000	0	458
DECK MACHINERY:																			
	Anchor windlasses	MAXWELL	3500 LBS STAINLESS / STEEL		2							106	212	5.00	0.00	13.33	1,060	0	2,827
	Windlass pans	SHIPYARD	PER GCA STAINLESS STEEL 316		2							25	50	5.00	0.00	13.33	250	0	667
	Anchors	DAVIS TALON	125 LBS. STAINLESS STEEL 316		2							125	250	4.00	0.00	12.00	1,000	0	3,000
	Hawse pipes	SHIPYARD	6" DIAM. STAINLESS STEEL 316		2							20	40	2.00	0.00	14.00	80	0	560
	Anchor chafe plates	SHIPYARD	5/16" PLA STAINLESS STEEL 316		2							25	50	2.00	0.00	14.00	100	0	700
	Chain stops	SHIPYARD	CUSTOM STAINLESS STEEL 316		2							15	30	4.00	0.00	13.50	120	0	405
	Chain	T.B.D.			2							770	1540	7.00	0.00	8.00	10,780	0	12,320
	Davit	NAUTICAL STI EZ-1500			1							460	460	6.00	-9.00	19.67	30,360	-4,140	9,047
BILGE / FIRE SYSTEM:																			
A.C. EMERGENCY BILGE SYSTEM																			
	BILGE PUMP				1	PLUMBED TO FIRE SYSTEM FOR BACKUP						50	50	55.00	0.00	5.00	2,750	0	250
	BASKET STRAINER FOR S.W. P	GROCO			2							20	40	62.00	0.00	4.00	2,480	0	160
	2" BALL VALVE	APOLLO			6							27	162	55.00	5.00	4.00	8,910	810	648
	1-1/2" BALL VALVE	APOLLO			8							19	152	55.00	5.00	4.00	8,360	760	608
	2" THREE WAY BALL VALVE				2							30	60	55.00	5.00	4.00	3,300	300	240
	BILGE MANIFOLD	SHIPYARD	3"X3'-1/4" SQUARE TUBE	AS REQ.	35							35	35	55.00	5.00	3.33	1,925	175	117
	PUMPING SOURCE SELECTION	SHIPYARD	3"X3'-1/4" SQUARE TUBE	AS REQ.	35							35	35	55.00	5.00	4.00	1,925	175	140
	SEA WATER INLET PIPE	SHIPYARD	2" SCHEDULE 40 PIPE	AS REQ.	75							75	75	55.00	5.00	4.00	4,125	375	300
	BILGE LINES	SHIPYARD	1-1/2" SCHEDULE 40 PIPE	AS REQ.	160							160	160	55.00	5.00	4.00	8,800	800	640
CLUTCHED BILGE PUMP																			
	CLUTCHED BILGE PUMP	JABSCO	18330-0041 2"-83GPM		1	MOUNTED TO MAIN ENGINE						29	29	55.00	0.00	5.00	1,595	0	145
	CLUTCHED BILGE PUMP LINES	SHIPYARD	1-1/2" SCHEDULE 40 PIPE	AS REQ.	40							40	40	55.00	0.00	4.00	2,200	0	160
D.C. BILGE STRIPPING PUMPS																			
	BILGE STRIPPING PUMPS	RULE	MODEL 3 VARIES		2	DISCHARGE OVERBOARD						5	10	55.00	5.00	4.00	550	50	40
	BILGE STRIPPING PUMP DISCH TRIDENT				AS REQ.							20	20	55.00	5.00	4.00	1,100	100	80
	BILGE STRIPPING PUMP CHECK VALVE				1							2	2	55.00	5.00	4.00	110	10	8
	BILGE STRIPPING PUMP FLOAT RULE				1							0.5	0.5	55.00	5.00	4.00	28	3	2
	BILGE STRIPPING PUMP HOSE	ABA OR EQUAL			AS REQ.							5	5	55.00	5.00	4.00	275	25	20
MANUAL BILGE PUMP																			
	MANUAL BILGE PUMP	WHALE			1							2	2	55.00	5.00	4.00	110	10	8
	MANUAL BILGE PUMP LINES	TRIDENT			AS REQ							20	20	55.00	5.00	4.00	1,100	100	80
	MANUAL BILGE PUMP CHECK VALVE				1							2	2	55.00	5.00	4.00	110	10	8
SEAWATER FIRE SYSTEM																			
	MAIN FIRE PUMP	BLACKMER			AS REQ.	PLUMBED TO BILGE SYSTEM FOR BACK-UP						75	75	55.00	5.00	4.00	4,125	375	300
	MAIN FIRE SEAWATER LINES	SHIPYARD			AS REQ.							50	50	55.00	5.00	4.00	2,750	250	200
	FIRE HOSE	ELKHART	2 X 50FT		25							25	25	55.00	5.00	4.00	1,375	125	100
	FIRE NOZZLES	ELKHART			2							10	10	55.00	5.00	4.00	550	50	40
	FIRE STATIONS	SHIPYARD			2	LOCATED PORT AFT M.D./STBD FWD M.D.						10	10	55.00	5.00	4.00	550	50	40
PORTABLE FIRE EXTINGUISHERS																			
	E.R. PORT. EXT.	FIREBOY OR	15 POUND FE-241		1							15	15	66.00	2.00	6.00	990	30	90
	GALLEY PORT EXT.	FIREBOY OR	5 POUND FE-241		1							5	5	40.00	-5.00	14.00	200	-25	70
	ACCUM. QUARTERS	FIREBOY OR	2-3/4 LB DCP		4							2.75	11	26.00	0.00	5.00	286	0	55
FIXED ENGINE ROOM SUPPRES.																			
	E.R. FIXED SUPPRESSION SYS	FIREBOY			1	LOCATED IN ENGINE ROOM AFT BULKHEAD						60	60	55.00	0.00	7.00	3,300	0	420
MISCELLANEOUS / MONITORING																			
	SMOKE/FIRE DETECTORS	VIMAR										10	10	45.00	0.00	7.00	450	0	70
	MONITORING PANEL	SHIPYARD	NOT APP VARIES		1							15	15	45.00	0.00	7.00	675	0	105
FRESH WATER SYSTEM:																			
	400 gal SS fresh water tank	SHIPYARD			1							625	625	50.67	0.00	2.50	31,669	0	1,563
	FRESH WATER TANK FILL FITTING	CONBRACO	APOLLO		2							6	12	50.67	0.00	10.50	608	0	126
	FRESH WATER FILL LINE	TRIDENT			AS REQ.							20	20	50.67	0.00	3.00	1,013	0	60
	WATER FILL LINE HOSE CLAMP	ABA OR EQUAL			AS REQ.	DOUBLE CLAMPS AT EVERY CONNECTION						2	2	50.67	0.00	3.00	101	0	6
	WATER TANK VENT HOSE	TRIDENT			AS REQ.	MINIMUM 18" GOOSENECKS						50	50	50.67	0.00	3.00	2,534	0	150
	WATER TANK VENT FITTINGS	A SHIPYARD			2	VENTED INSIDE BULWARKS PORT AND STBD						2	4	50.67	0.00	3.00	203	0	12
	WATER TANK LEVEL SENSER	HEADHUNTER			1	ACCESSED UNDER THE FORWARD PASSAGE.						2	2	50.67	0.00	3.00	101	0	6
	CONTROL WIRE FROM SENDER	HEADHUNTER			AS REQ.	ROUTING IS TO BE DEVELOPED BY SHIPYARD						2	2	55.00	0.00	9.00	110	0	6
	FRESH WATER TANK LEVEL MC	HEADHUNTER			1	LOCATED IN THE PILOTHOUSE						2	2	55.00	0.00	9.00	110	0	18
	FRESH WATER SUPPLY SHUTC	APOLLO			3	MOUNTED TO THREADED NIPPLE ON TANK						4	12	52.00	0.00	3.00	624	0	36
	FRESH WATER MAIN SUPPLY L	TRIDENT			AS REQ.							40	40	50.67	0.00	8.00	2,000	0	320
	FRESH WATER PRES. PUMP	ISI	APOLLO		2							4	4	50.00	0.00	8.00	200	0	32
	FRESH WATER PRESSURE PUI	HEADHUNTER			2	LOCATED IN ENGINE ROOM PORT AFT						40	40	50.00	0.00	8.00	2,000	0	320
	FRESH WATER ACCUM TANK S	APOLLO			1							5	5	52.00	0.00	8.00	260	0	40
	FRESH WATER PRESSURE ACX	HEADHUNTER			1	LOCATED IN ENGINE ROOM PORT AFT						50	50	52.00	0.00	8.00	2,600	0	400
	WATER FILTER ISOLATION VAL	APOLLO			6							6	36	52.00	0.00	3.00	1,872	0	108
	FRESH WATER PARTICULATE F	AQUA-PURE OR EQ.			1							20	20	55.00	0.00	9.00	1,100	0	180
	TASTE FILTER	AQUA-PURE OR EQ.			1							20	20	55.00	0.00	9.00	1,100	0	180
	SUPPLY VALVE FR. COLD TO H	APOLLO			1							1.75	1.75	50.00	0.00	3.00	88	0	5
	CHECK VALVE BETWEEN HOL	APOLLO			1							1.75	1.75	50.00	0.00	3.00	88	0	5
	HOT WATER CIRC. PUMP	ISOLA	APOLLO		2							1.25	2.5	50.00	0.00	3.00	125	0	8
	HOT WATER CIRCULATION PUI	SEA RECOVERY			1							20	20	50.00	0.00	3.00	1,000	0	60
	HOT WATER CIRC. LOOP CHEC	APOLLO			1							1.75	1.75	50.00	0.00	3.00	88	0	5
	HOT WATER TANK ISOLATION	APOLLO			2							1.75	3.5	50.00	0.00	3.00	175	0	11
	HOT WATER TANK	ATLANTIC			1	MOUNTED IN E.R. PORT SIDE AFT						98	98	55.00	0.00	9.00	5,390	0	882
	COLD WATER BRANCH LINES	AQUA-LINK			AS REQ.							50	50	45.00	0.00	3.00	2,250	0	150
	FRESH WATER WASHDOWN S	AQUA-LINK			6							2	12	45.00	0.00	3.00	540	0	36
	FRESH WATER WASHDOWN H	SKANDVIK OR EQ.			2														

SYSTEM	SUB-ASSEMBLY	Manufacturer	Model # / Size	Material	Quantity	Comments	Thk./width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (psf, pcf)	Wt/unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments
AIR CONDITIONING & HEATING:																			
AIR CONDITIONING																			
	PILOTHOUSE AIR HANDLER	AQUA-AIR	AH16KDT VARIES		1							23	23	35.00	0.00	12.50	805	0	288
	FANCOIL TEMPERATURE CONT	AQUA-AIR	H-DIGMZ VARIES		1							1	1	35.00	0.00	16.67	35	0	17
	GALLEY AIR HANDLER	AQUA-AIR	AH16KDT VARIES		1							23	23	35.83	-6.00	12.50	824	-138	288
	FANCOIL TEMPERATURE CONT	AQUA-AIR	H-DIGMZ VARIES		1							1	1	35.83	-6.00	16.67	36	-6	17
	MAIN SALOON AIR HANDLER	AQUA-AIR	AH24KDT VARIES		1							23	23	52.50	-6.25	12.50	1,208	-144	288
	FANCOIL TEMPERATURE CONT	AQUA-AIR	H-DIGMZ VARIES		1							1	1	52.50	-6.25	16.67	53	-6	17
	MASTER STATEROOM AIR HANI	AQUA-AIR	AH12KDT VARIES		1							23	23	40.00	-7.00	3.33	920	-161	77
	HYDRONICS DIGITAL CONTROL	AQUA-AIR	H-DIGMZ VARIES		1							1	1	40.00	-7.00	6.25	40	-7	6
	PORT & STBD GUEST STATERC	AQUA-AIR	AH12KDT VARIES		2							23	46	30.00	0.00	4.17	1,380	0	192
	HYDRONICS DIGITAL CONTROL	AQUA-AIR	H-DIGMZ VARIES		1							1	1	30.00	0.00	6.67	30	0	7
	PASSAGEWAY AIR HANDLER	AQUA-AIR	AH12KDT VARIES		1							23	23	23.33	0.00	6.25	537	0	144
	HYDRONICS DIGITAL CONTROL	AQUA-AIR	H-DIGMZ VARIES		1							1	1	23.33	0.00	8.33	23	0	8
	FORWARD VIP GUEST STATERI	AQUA-AIR	AH12KDT VARIES		1							23	23	17.08	7.00	6.25	393	161	144
	HYDRONICS DIGITAL CONTROL	AQUA-AIR	H-DIGMZ VARIES		1							1	1	17.08	7.00	8.33	17	7	8
	CREW QUARTER AIR HANDLER	AQUA-AIR	AH12KDT VARIES		1							23	23	76.00	2.00	12.50	1,748	46	288
	HYDRONICS DIGITAL CONTROL	AQUA-AIR	H-DIGMZ VARIES		1							1	1	76.00	2.00	15.00	76	2	15
	FRESH AIR MAKEUP UNIT	AQUA-AIR	VARIES		1							45	45	59.58	9.00	7.00	2,681	405	315
	AC CHILLER UNIT	AQUA AIR	VARIES		1							376	376	60.42	9.00	7.00	22,717	3,384	2,632
	CONTROL VALVES	BEE VALVE			9							2	18	60.42	9.00	7.00	1,088	162	126
	CHILLED WATER RETURN LINES				AS REQ'D							20	20	60.42	9.00	7.00	1,208	180	140
	CHILLED WATER SUPPLY LINES				AS REQ'D							20	20	60.42	9.00	7.00	1,208	180	140
	SEA WATER INTAKE HOSE	TRIDENT			10							10	10	60.42	9.00	7.00	604	90	70
	SEA WATER INTAKE STRAINER	GROCO			1							20	20	60.42	9.00	7.00	1,208	180	140
	CHECK VALVE	APOLLO			5							2	10	60.42	9.00	7.00	604	90	70
	PUMP				1							10	10	60.42	9.00	7.00	604	90	70
	CHILLED WATER LINE INSULAT	ARMAFLEX			AS REQ'D							20	20	60.42	9.00	7.00	1,208	180	140
	PUMP				1							10	10	60.42	9.00	7.00	604	90	70
	PUMP				1							10	10	60.42	9.00	7.00	604	90	70
HEATING																			
	WEBASTO HEATER				1							48	48	62.00	-8.00	8.00	2,976	-384	384
	PILOTHOUSE FAN COIL UNIT	7000 BTU			1							15	15	35.00	0.00	12.50	525	0	188
	MASTER STATEROOM FAN COIL UNIT	7000 BTU			1							15	15	40.00	-7.00	3.33	600	-105	50
	PORT & STBD GUEST STATEROOM FAN COIL	7000 BTU			2							15	30	30.00	0.00	4.17	900	0	125
	PASSAGEWAY FAN COIL UNIT	7000 BTU			1							15	15	23.33	0.00	6.25	350	0	94
	FORWARD VIP GUEST STATEROOM FAN COIL	7000 BTU			1							15	15	17.08	7.00	6.25	256	105	94
	CREW QUARTERS	7000 BTU			2							15	30	76.00	2.00	12.50	2,280	60	375
	MAIN SALOON AIR HANDLER	7000 BTU			2							15	30	52.50	-6.25	12.50	1,575	-188	375
	BLOWERS (FOR WINTER), STA1	ACUHEAT # 300-H			1							15	15	23.33	0.00	6.25	350	0	94
	BLOWERS (FOR WINTER), CRE	ACUHEAT # 300-H			1							15	15	76.00	2.00	12.50	1,140	30	188
	BLOWERS (FOR WINTER), MAIN	ACUHEAT # 300-H			1							15	15	52.50	-6.25	12.50	788	-94	188
VENTILATION (ACCOMODATIONS)																			
	GALLEY FAN	THERMADOR	250 F.C.A. STAINLESS STEEL		1							10	10	42.00	-3.33	18.50	420	-33	185
	MAIN DECK DAY HEAD VENT	DELTA-T	VARIES		1							7	7	35.00	7.00	18.50	245	48	130
	PORT & STBD GUEST HEAD VEI	DELTA-T	VARIES		1							7	7	27.00	0.00	9.50	189	0	67
	OWNERS HEAD VENT	DELTA-T	VARIES		1							7	7	46.50	9.00	9.50	326	63	67
	VIP STATEROOM HEAD VENT	DELTA-T			1							7	7	19.00	-6.00	11.50	133	-42	81
	CLOTHES DRYER VENT	DELTA-T			1							7	7	39.00	-3.00	5.00	273	-21	35
	BILGE VENTILATORS	DELTA-T	VARIES		3	IN LAZARETTE, FORWARD HOLD, FOREPEAK						7	21	45.00	0.00	5.00	945	0	105
LUBE OIL SYSTEM:																			
	LUBE OIL TRANSFER PUMP	GROCO	SP-060		1							30	30	55.00	0.00	9.00	1,650	0	270
	3-WAY BALL VALVE, 3 PIECE, 3/4	APOLLO	SERIES 70-604-10		1							2	2	55.00	0.00	9.00	110	0	18
	BALL VALVE, 3 PIECE, 3/4" THRI	APOLLO	SERIES82-203-10		13							2	26	55.00	0.00	9.00	1,430	0	234
	HOSE, FC 234-12 FEMALE SWIV	AERQUIP	FC 234-12		AS REQ'D							1	1	55.00	0.00	9.00	55	0	9
	ADAPTER, 259-4411-12 HOSE EI	AERQUIP	259-4411-12		24							1	24	55.00	0.00	9.00	1,320	0	216
	ADAPTER, 2083-12-12 NPT TO NPT	#####			11							1	11	55.00	0.00	9.00	605	0	99
	ADAPTER, 259-2021-12-12 MALE NPT TO MALE	259-2021-12-12			12							1	12	55.00	0.00	9.00	660	0	108
	ADAPTER, 2022-12C FEMALE NPT TO MALE	2022-12C			12							1	12	55.00	0.00	9.00	660	0	108
	PIPE PLUG, 3/4"				1							1	1	55.00	0.00	9.00	55	0	9
	3/4" SCH. 40 PIPE				1							40	40	55.00	0.00	9.00	2,200	0	360
	1 1/4" Y-STRIE STRAINER				1	FOR CLEAN L.O. LINE						5	5	55.00	0.00	9.00	275	0	45
	1 1/2" x 3/4" REDUCER				2							0.25	0.5	55.00	0.00	9.00	28	0	5
	CLEAN L.O. TANK	SHIPYARD			1							50	50	55.00	0.00	9.00	2,750	0	450
	DIRTY L.O. TANK	SHIPYARD			1							50	50	55.00	0.00	9.00	2,750	0	450
	MANUAL BACK-UP PUMP				1							5	5	55.00	0.00	9.00	275	0	45
	1" DISCHARGE / FILL PIPE SCH. 40				1							40	40	55.00	0.00	9.00	2,200	0	360
	END CAP				2							0.5	1	55.00	0.00	9.00	55	0	9
BLACK WATER SYSTEM																			
	200 gal FRP black water tank												250	41.25	0.00	2.00	10,313	0	500
	CHECK VALVE	APOLLO 1/2"			5							1	5	28.67	-0.70	7.17	143	-4	36
	ADDER KIT	HEADHUNTER			5							3	15	28.67	-0.70	7.17	430	-11	108
	Pressure pump				1							50	50	55.00	0.00	1.00	0	0	50
	WATER HOSE	TRIDENT			1							40	40	28.67	-8.40	7.17	1,147	-336	287
	VENTED LOOP	FORESPAR			5							1	5	28.67	-8.40	7.17	143	-42	36
	THREE-WAY DIVERTER VALVE	HEADHUNTER			5							2	10	37.50	0.00	2.00	375	0	20
	DISCHARGE HOSE TO OVERBC	TRIDENT			1							20	20	32.50	1.83	1.67	650	37	33
	DISCHARGE SEACOCK	APOLLO			4							5	20	26.00	3.50	2.50	520	70	50
	2" SANITATION DISCHARGE LIN	HEADHUNTER			AS REQ'D							20	20	26.00	3.50	2.50	520	70	50
	TANK SENDER	HEADHUNTEF TANK SENTRY			1							2	2	40.50	0.00	2.00	81	0	4
	3/4" VENT LINE	TRIDENT			28							20	20	40.42	0.00	2.00	808	0	40
	3" WASTE DOCKSIDE DISCHAR	TRIDENT			AS REQ'D							60	60	40.50	0.00	2.00	2,430	0	

SYSTEM	SUB-ASSEMBLY	Manufacturer	Model # / Size	Material	Quantity	Comments	Thk./width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (psf, pcf)	Wt./unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments
	SEWAGE DISCHARGE PUMP	HEADHUNTER	120ELB20AC150	BONE DRY	1							112	112	70.00	0.00	2.00	7,840	0	224
	3-WAY VALVE	APOLLO			1							2	2	35.83	0.00	1.67	72	0	3
GREYWATER SYSTEM																			
	200 gal integ. gray water tank				1							112	175	54.50	0.00	1.67	9,538	0	292
	SEWAGE DISCHARGE PUMP	HEADHUNTER		VARIABLES	1							112	112	41.00	0.00	1.67	4,592	0	187
	SHOWER SUMP PUMP SYSTEM	ATTWOOD		VARIABLES	1	LOCATED UNDER MASTER TUB/SHOWER AREA						50	50	41.00	0.00	1.67	2,050	0	83
	3" VENTILATION FAN	FANTECH			2							5	10	41.00	0.00	1.67	410	0	17
	1 1/2" CPVC 3-WAY BALL VALVE	SPEARS			1							1	1	41.00	0.00	1.67	41	0	2
	1 1/2" CPVC Y-VALVE	FORESPAR			3							2	6	41.00	0.00	1.67	246	0	10
	1 1/2" CPVC BALL VALVE	SPEARS			3							1	3	41.00	0.00	1.67	123	0	5
	CHARCOAL FILTER	SEALAND			2							1	2	41.00	0.00	1.67	82	0	3
	1 1/2" CHECK VALVE	SPEARS			2							1	2	41.00	0.00	1.67	82	0	3
	TANK SENDER	HEADHUNTER			1							2	2	41.00	0.00	1.67	82	0	3
	SENDER WIRE FROM SENDER	HEADHUNTER			1							2	2	41.00	0.00	1.67	82	0	3
	TANK LEVEL MONITOR	HEADHUNTER			1							2	2	41.00	0.00	1.67	82	0	3
	1 1/2" SCH. 40 PIPE	CPVC			1							20	20	41.00	0.00	1.67	820	0	33
	1 1/2" SCH. 40 PIPE	CPVC			1							20	20	41.00	0.00	1.67	820	0	33
	3" SCH. 40 PIPE	CPVC			1							20	20	41.00	0.00	1.67	820	0	33
	3/4" SCH. 40 PIPE	CPVC			1							20	20	41.00	0.00	1.67	820	0	33
MISC. MECHANICAL																			
													500	62.00		5.00	31,000	0	2,500
MARGIN																			
													500.00	62.00	0.00	5.00	31,000	0	2,500
													11,984			540,632	8,766	73,792	
ELECTRICAL																			
GENERATORS & PERIPHERALS																			
	GENSET #1 M864	NL	25KW		1	Includes shield/fluids						1110	1110	68.50	-7.00	5.00	76,035	-7,770	5,550
	FLOATING MOUNTS				4							5	20	68.50	-7.00	4.17	1,370	-140	83
	Plywood platform				1	1 2x5/8" plywood	30			1.8		52.5	55	68.50	-7.00	4.17	3,768	-385	229
	GENSET #2 M984	NL	33 KW		1	Includes shield/fluids						1299	1299	68.50	6.00	5.00	88,982	7,794	6,495
	FLOATING MOUNTS				4							5	20	68.50	6.00	4.17	1,370	120	83
	Plywood platform				1	1 2x5/8" plywood	30			1.8		52.5	55	68.50	6.00	4.17	3,768	330	229
	PTO and pump											75	60.00	0.00	4.58	4,500	0	344	
	WET EXHAUST MUFFLER	Centek			2							10	20	70.00	0.00	6.25	1,400	0	125
	Genseps	Centek			2							10	10	70.00	0.00	6.25	700	0	63
	EXHAUST HOSE				50							25	25	72.00	0.00	5.00	1,800	0	125
	Thru hulls	AFT SIDE			2							4	4	80.00	0.00	5.00	320	0	20
	Seacock transom				2							5	10	80.00	0.00	5.00	800	0	50
	Seacock seawater				2							5	10	80.00	0.00	5.00	800	0	50
	CONTROLS	NORTHERN LIGHTS			2							5	10	65.00	0.00	5.00	650	0	50
	FUEL FILTERS	RACOR			2							3	6	55.00	0.00	5.00	330	0	30
	S.W. LINES	TRIDENT			AS REQD							10	10	65.00	0.00	5.00	650	0	50
	Misc				1							20	20	65.00	0.00	5.00	1,300	0	100
AC DISTRIBUTION																			
	AC MAIN DIST. PANEL	SHIPYARD			1							75	75	57.00	-9.00	8.00	4,275	-675	600
	Cablemaster	GLENDINNING			2							45	90	65.00	0.00	8.00	5,850	0	720
	SHORE POWER CORD	GLENDINNING	100 FT.-50 AMP		2							50	100	65.00	-8.33	8.00	6,500	-833	800
	Isolation Transformer	Charles	Isoboost		2							200	400	65.00	-8.33	8.00	26,000	-3,333	3,200
	Circuit breakers inlet				2							15	15	57.00	-9.00	8.00	855	-135	120
DISTRIBUTION PANELS																			
	DC MAIN DIST. PANEL											50	67.00	-9.00	8.00	3,350	-450	400	
BATTERIES																			
	Stbd Batteries																		
	M.E. START BATTERIES		8D-1400		2	Includes box						130	260	68.75	5.00	5.00	17,875	1,300	1,300
	SHIP'S BATTERY SET, DEEP CYCLE	COMMER	8D-1401		1							272	272	67.75	5.00	5.00	18,428	1,360	1,360
	Port Batteries																		
	SHIP'S BATTERY SET, DEEP CYCLE	COMMER	8D-1401		5							272	1360	68.75	-6.00	5.00	93,500	-8,160	6,800
	GENSET START BATTERIES	GELL			2							60	120	67.50	0.00	5.00	8,100	0	600
	Battery cables				1							75	75	67.50	0.00	5.00	5,063	0	375
	Engine control panel				1							20	20	67.50	0.00	5.00	1,350	0	100
BATTERY CHARGERS																			
	24 volt charger				1							35	35	67.00	0.00	4.00	2,345	0	140
	24 volt inverter				1							40	40	67.00	0.00	4.00	2,680	0	160
	24-12 volt converter				1							25	25	67.00	0.00	4.00	1,675	0	100
	Electronics inverter				1							10	10	67.00	0.00	4.00	670	0	40
	Wiring breakers				1							75	75	67.00	0.00	4.00	5,025	0	300
BATTERY SWITCHES																			
	M.E. START, ON/OFF	GUEST			2							1	2	64.00	0.00	5.00	128	0	10
	GENERATOR ON/OFF				2							1	2	64.00	0.00	5.00	128	0	10
	Misc circuit breakers/wiring											50	50	64.00	0.00	5.00	3,200	0	250
VACUUM SYSTEM																			
	BUILT IN VACUUM SYSTEM WITH 3 OUTLETS				1							150	150	55.00	-9.00	6.00	8,250	-1,350	900
MECHANICAL SPACE LIGHTING																			
	E.R. LIGHTS O.H. (DC)				4							8	32	60.00	0.00	11.00	1,920	0	352
	LAZARETTE LIGHTING				2							8	16	73.00	0.00	11.00	1,168	0	176
	FOREPEAK				1							2	2	5.00	0.00	11.00	10	0	22
NAVIGATION LIGHTING																			
	MASTHEAD LIGHT				1							10	5	45.00	0.00	14.00	225	0	70
	PORT NAV LIGHT				1							5	5	45.00	-10.00	11.00	225	-50	55
	STBD NAV LIGHT				1							5	5	45.00	10.00	11.00	225	50	55
	STERN LIGHT				1							5	5	75.00	0.00	16.00	375	0	80
	ALLROUND				1							5	10	50.00	0.00	24.00	500	0	240
EXTERIOR LIGHTING																			
	DECK FLOODS				1							4	4	50.00	0.00	24.00	200	0	96
	BULWARK LIGHTS				11							2	22	50.00	0.00	11.00	1,100	0	242
	INTERIOR STEP LIGHTS				9							2	18	50.00	0.00	11.00	900	0	198
	EXTERIOR O.H. LIGHTS				14							2	28	50.00	0.00	17.00	1,400	0	476
	FIXED SEARCHLIGHT				1							20	20	53.00	0.00	21.00	1,060	0	420
	SEARCHLIGHT PORTABLE				1							5	5	40.00	0.00	21.00	200	0	105
PILOTHOUSE LIGHTING																			
	OVERHEAD LIGHTING WHITE				4							2	8	30.00	0.00	18.00	240	0	144
	OVERHEAD LIGHTING RED				3							2	6	30.00	0.00	18.00	180	0	108
	READING LIGHT				1							2	2	26.00	-5.00	15.00	52	-10	30
	CHART LIGHT				1														

SYSTEM	SUB-ASSEMBLY	Manufacturer	Model # / Size	Material	Quantity	Comments	Thk./width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (psf, pcf)	Wt/unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments
	SHOWER LIGHT				1							2	2	20.00	-4.00	12.00	40	-8	24
PORT & STBD GUEST S.R. LIGHTING	OVERHEAD LIGHTING WHITE				4							2	8	32.50	0.00	11.00	260	0	88
	CLOSET LIGHT				2							2	4	30.00	0.00	11.00	120	0	44
	READING LIGHT				4							2	8	37.00	0.00	11.00	296	0	88
PASSAGEWAY LIGHTING	OVERHEAD LIGHTING WHITE				4							2	8	26.00	0.00	11.00	208	0	88
OWNERS STATEROOM LIGHTING	OVERHEAD LIGHTING WHITE				6							2	12	45.00	0.00	9.00	540	0	108
	CLOSET LIGHT				2							2	4	40.00	7.00	9.00	160	28	36
OWNERS HEAD LIGHTING	OVERHEAD LIGHTING WHITE				2							2	4	46.00	8.00	9.00	184	32	36
	MIRROR LIGHT				2							2	4	46.00	8.00	9.00	184	32	36
	SHOWER LIGHT				1							2	2	46.00	8.00	9.00	92	16	18
LAUNDRY ROOM LIGHTING	OVERHEAD LIGHTING WHITE				2							2	4	39.50	-3.00	9.00	158	-12	36
BRIDGE ELECTRONICS/SECURITY:	Bridge Console:																		
	AUTOPILLOT	RAYTHEON			1							30	30	25.00	0.00	15.00	750	0	450
	RADAR				1							35	35	25.00	0.00	15.00	875	0	525
	Color sounder											30	30	25.00	0.00	15.00	750	0	450
	Plotter CPU											10	10	25.00	0.00	15.00	250	0	150
	Plotter Monitor											45	45	25.00	0.00	15.00	1,125	0	675
	START/STOP SWITCHES				1							1	1	25.00	0.00	15.00	25	0	15
	HORN BUTTON				1							1	1	25.00	0.00	15.00	25	0	15
	WIPER CONTROLS & WASHER VALVES				1							1	1	25.00	0.00	15.00	25	0	15
	LIGHT PANEL				1							5	5	25.00	0.00	15.00	125	0	75
	BOW THRUSTOR CONTROLS				1							5	5	25.00	0.00	15.00	125	0	75
	TANK LEVEL INDICATORS				1							1	1	25.00	0.00	15.00	25	0	15
	FAILURE/FLOOD INDICATORS				1							1	1	25.00	0.00	15.00	25	0	15
	COMPASS	RITCHIE 6"			1							2	2	25.00	0.00	15.00	50	0	30
	Engine controls											15	15	25.00	0.00	15.00	375	0	225
	ENGINE ALARM				1							1	1	25.00	0.00	15.00	25	0	15
	SOUNDER				1							10	10	25.00	0.00	15.00	250	0	150
	GPS #1				1							10	10	25.00	0.00	15.00	250	0	150
	WEATHER FAX				1							10	10	25.00	0.00	15.00	250	0	150
	SINGLE SIDE BAND				1							10	10	25.00	0.00	15.00	250	0	150
	VHF				1							10	10	25.00	0.00	15.00	250	0	150
	ENGINEER ROOM CAMERA				1							5	5	25.00	0.00	15.00	125	0	75
	ENGINEER ROOM MONITOR				1							5	5	25.00	0.00	15.00	125	0	75
	EPIRB				1							2	2	25.00	0.00	15.00	50	0	30
	INTERCOM	6 STATION			1							15	15	25.00	0.00	15.00	375	0	225
	FB Console:																		
	Radar											35	35	41.50	0.00	20.00	1,453	0	700
	Plotter											45	45	41.50	0.00	20.00	1,868	0	900
	Sounder											30	30	41.50	0.00	20.00	1,245	0	600
	START/STOP SWITCHES				1							1	1	41.50	0.00	20.00	42	0	20
	HORN BUTTON				1							1	1	41.50	0.00	20.00	42	0	20
	LIGHT PANEL				1							10	10	41.50	0.00	20.00	415	0	200
	BOW THRUSTOR CONTROLS				1							10	10	41.50	0.00	20.00	415	0	200
	Stabilizer controls											15	15	41.50	0.00	20.00	623	0	300
	FAILURE/FLOOD INDICATORS				1							1	1	41.50	0.00	20.00	42	0	20
ENTERTAINMENT:	Salon:																		
	MAIN SALON TV	SONY	32"		1							100	100	57.00	6.33	13.00	5,700	633	1,300
	MAIN SALON VCR/DVD	SONY			1							20	20	57.00	6.33	13.00	570	63	130
	MAIN SALON RECEIVER	SONY			1							10	10	57.00	6.33	13.00	570	63	130
	MAIN SALON AMPLIFIER	SONY			1							15	15	57.00	6.33	13.00	855	95	195
	MAIN SALON CD. PLAYER	SONY			1							10	10	57.00	6.33	13.00	570	63	130
	MAIN SALON SUB WOOFER.				1							25	25	64.00	-5.00	13.00	1,600	-125	325
	MAIN SALON CENTER. SPEAKER				1							10	10	57.00	6.33	13.00	570	63	130
	MAIN SALON SIDE SPEAKER				2							10	20	57.00	6.33	13.00	1,140	127	260
	Master SR:																		
	TV/VCR	SONY	27"		1							100	100	41.00	0.00	5.42	4,100	0	542
	VCR	SONY			1							10	10	41.00	0.00	5.42	410	0	54
	STEREO/CD PLAYER	SONY			1							10	10	41.00	0.00	5.42	410	0	54
	SPEAKERS				2							10	20	41.00	0.00	5.42	820	0	108
	Port Guest SR:																		
	TV/VCR	SONY	13"		1							50	50	27.00	-3.00	6.00	1,350	-150	300
	STEREO/CD PLAYER	SONY			1							10	10	27.00	-3.00	6.00	270	-30	60
	SPEAKERS				2							10	20	27.00	-3.00	6.00	540	-60	120
	Stbd VIP/Guest SR:																		
	TV/VCR	SONY	13"		1							50	50	27.00	3.00	6.00	1,350	150	300
	STEREO/CD PLAYER	SONY			1							10	10	27.00	3.00	6.00	270	30	60
	SPEAKERS				2							10	20	27.00	3.00	6.00	540	60	120
	VIP Guest SR:																		
	TV/VCR	SONY	13"		1							50	50	19.00	0.00	7.00	950	0	350
	STEREO/CD PLAYER	SONY			1							10	10	19.00	0.00	7.00	190	0	70
	SPEAKERS				2							10	20	19.00	0.00	7.00	380	0	140
GENERAL WIRING													2500	50.00	0.00	12.00	125,000	0	30,000
MARGIN													500.00	50.00	0.00	12.00	25,000	0	6,000
													10,272	50.00	0.00	12.00	603,548	-11,308	83,849
													10,272	50.00	0.00	12.00	603,548	-11,308	83,849

ACCOMODATIONS

SOUND INSULATION:	Salon:	Material	Quantity	Comments	Thk./width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (psf, pcf)	Wt/unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments
	Salon thinsulate hullside and kneewall		240					0.15	36	36	54.50	0.00	11.00	1,962	0	396	
	Overhead		300					0.15	45	45	54.50	0.00	17.00	2,453	0	765	
	Salon carpet pad	SOUNDOWN 1/2" SOUND. DAMP PAD	300					1.22	366	366	54.50	0.00	10.00	19,947	0	3,660	
	Pilot House:																
	PH deck sides		70					0.15	10.5	10.5	35.00	0.00	15.00	368	0	158	
	Ph overhead		270					0.15	40.5	40.5	35.00	0.00	20.00	1,418	0	810	
	Dash	3M 2" Thinsulate	100					0.15	15	15	26.00	0.00	13.00	390	0</		

SYSTEM SUB-ASSEMBLY

Manufacturer	Model # / Size	Material	Quantity	Comments	Thk./width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (psf, pcf)	Wt/unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments
Under gens	SD	tiles					12		2.77	33.24	33.24	71.67	0.00	3.50	2,382	0	116
Crew:																	
OVER PROPS/struts	SD	tiles				40			2.77	110.8	110.8	80.00	0.00	3.00	8,864	0	332
Hull sides	3M	2" Thinsulate				100			0.15	15	15	75.00	0.00	6.50	1,125	0	98
Master SR:																	
Hull sides	3M	2" Thinsulate				111			0.15	16.65	16.65	46.67	0.00	5.83	777	0	97
Sole	3M	2" Thinsulate				135			0.15	20.25	20.25	46.67	0.00	3.00	945	0	61
Overhead	3M	2" Thinsulate				20			0.15	3	3	46.67	0.00	9.50	140	0	29
Master SR Head:																	
Tub	3M	2" Thinsulate				30			0.15	4.5	4.5	40.83	0.00	3.33	184	0	15
Hull sides	3M	2" Thinsulate				90			0.15	13.5	13.5	40.00	0.00	5.83	540	0	79
BULKHEAD FR 36	3M	2" Thinsulate	1			171			0.15	25.65	25.65	36.00	0.00	6.25	923	0	160
BULKHEAD FR 36				misc framing							20	36.00	0.00	6.25	720	0	125
Guest SR:																	
Hull sides	3M	2" Thinsulate				126			0.15	18.9	18.9	30.50	0.00	8.00	576	0	151
VIP SR:																	
Overhead	3M	2" Thinsulate				100			0.15	15	15	12.00	0.00	13.25	180	0	199
Dash	3M	2" Thinsulate				30			0.15	4.5	4.5	25.00	0.00	13.75	113	0	62
PILOTHOUSE:																	
Sole/coverings:																	
PH/Galley Sole:						264				2.85	752.40	36.00	0.00	12.00	27,086	0	9,029
Teak overlayment						112				1.41	157.92	32.00	0.00	12.00	5,053	0	1,895
Sound insulation		Thinsulate				150			0.45	68.06	68.06	32.00	0.00	12.00	2,178	0	817
Headliner:																	
HEADLINER PANELS										50	50.00	31.00	0.00	18.75	1,550	0	938
HEADLINER ATTACHEMENT SYSTEM										30	30.00	31.00	0.00	18.75	930	0	563
HEADLINER Stiffening grid										50	50.00	31.00	0.00	18.75	1,550	0	938
Helm station:																	
FORWARD CONSOLE JOINERWORK CARCASS											200.00	25.00	0.00	15.00	5,000	0	3,000
FORWARD CONSOLE FRONT FACE FINISH											10.00	25.00	0.00	15.00	250	0	150
CONSOLE COUNTERTOP											50.00	25.00	0.00	15.00	1,250	0	750
ELECTRONICS RAISED BOX CARCASS											50.00	26.00	0.00	15.00	1,300	0	750
ELECTRONICS RAISED BOX FRONT FINISH											10.00	26.00	0.00	15.00	260	0	150
ELECTRONICS RAISED BOX CASING FINISH											10.00	26.00	0.00	15.00	260	0	150
DRAWER CONSTRUCTION											50.00	25.00	0.00	15.00	1,250	0	750
PILOTHOUSE HELM SEAT	STIDD	100/200, LEATHER	1								100	28.00	0.00	15.83	2,800	0	1,583
PILOTHOUSE HELM SEAT TRACK			1								20	28.00	0.00	13.00	560	0	260
DRAWER SLIDES										5	5.00	31.25	-3.33	15.00	156	-17	75
DRAWER LATCHES										5	5.00	31.25	-3.33	15.00	156	-17	75
WINDSHIELD WIPERS	Hepworth		3	Incl est stiff and harness						15	45	25.83	0.00	18.00	1,163	0	810
STEERING WHEEL	METALSTYLE	30" WOODEN GRIP 5 SPOKE	1							10	10	27.50	0.00	14.17	275	0	142
Dinette:																	
DINETTE UNIT CARCASS CONSTRUCTION						25				250	150.00	34.00	-3.33	15.00	5,100	-500	2,250
DINETTE UNIT FINISH						10				10	10.00	34.00	-3.33	15.00	340	-33	150
CUSHION MATERIAL		4"				15				50	50.00	34.00	-3.33	15.00	1,700	-167	750
DINETTE FABRIC						15				25	25.00	34.00	-3.33	15.00	850	-83	375
DINETTE UNIT TABLE CONSTRUCTION						8				50	50.00	34.00	-3.33	15.00	1,700	-167	750
DINETTE TOP FINISH						8				5.00	5.00	34.00	-3.33	15.00	170	-17	75
DINETTE PEDESTAL			1			20				20	20.00	34.00	-3.33	15.00	680	-67	300
DINETTE DRAWER BOX CONSTRUCTION						25				25	25.00	34.00	-3.33	15.00	850	-83	375
Stairs to fwd SR's											400	25.00	4.50	8.00	10,000	1,800	3,200
Electrical Cabinet											150	34.00	5.00	16.00	5,100	750	2,400
Misc:																	
Window trim										150	150.00	30.00	0.00	16.50	4,500	0	2,475
Paint and Varnish											50	32.00	0.00	16.50	1,600	0	825
Locker Contents											500	33.00	0.00	14.00	16,500	0	7,000
DAY HEAD:																	
Sole/coverings:																	
vinyl sole covering		1.58mm SHEET		AS REQ'D		16			0.0	0.32	0.32	36.00	5.00	12.00	913	125	300
SOUND DAMPING															12	2	4
ROUGH PLUMBING																	
Headliner Panels											40.00	36.50	0.00	18.75	1,460	0	750
Head partitions											150	36.50	6.00	16.00	5,475	900	2,400
Vanity Carcass											50	38.50	6.00	14.00	1,925	300	700
WINDOW TRIM											15	34.00	0.00	13.00	510	0	195
COUNTER TOP											14.70	38.50	6.25	15.00	566	82	221
DOOR											50.00	36.50	5.83	15.00	1,825	292	750
SINK	KOHLER	SPIRIA	1							20	20	36.00	5.83	15.00	720	117	300
TOWEL RING			1							1	2	36.00	5.83	15.00	72	12	30
TOWEL ROD			1							1	3	36.00	5.83	15.00	108	18	45
SOAP HOLDER			1							1	1	36.00	5.83	15.00	36	6	15
TOILET PAPER HOLDER			1							1	1	36.00	5.83	15.00	36	6	15
Misc:																	
Window trim											40.00	36.50	0.00	16.50	1,460	0	660
Paint and Varnish											50	36.50	0.00	16.50	1,825	0	825
Locker contents											50	38.50	6.00	14.00	1,925	300	700
GALLEY:																	
Galley BHD station 36											100	36.00	-3.50	14.00	3,600	-350	1,400
Galley BHD station 43.5											100	43.50	-3.50	14.00	4,350	-350	1,400
Fwd counter carcass											150	37.00	-3.50	15.00	5,550	-525	2,250
Fwd Counter drawers											50	37.00	-3.50	15.00	1,850	-175	750
OB counter carcass											125	40.00	-6.00	15.00	5,000	-750	1,875
OB counter doors											30	40.00	-5.00	15.00	1,200	-150	450
Aft counter carcass											150	42.00	-3.50	15.00	6,300	-525	2,250
Aft counter doors											30	41.00	-3.50	15.00	1,230	-105	450
Aft overhead lockers											100	43.00	-3.50	15.00	4,300	-350	1,500
Stairs to FB											300	41.00	4.50	17.00	12,300	1,350	5,100
Stairs to FB enclosure											150	41.50	4.50	17.00	6,225	675	2,550
Stairs to Salon											75	41.50	2.00	11.00	3,113	150	825
Appliances:																	
REFRIGERATOR/FREEZER	G.E.	Z15B42DW/DX	1							350	350	42.00	-1.00	15.00	14,700	-350	

SYSTEM SUB-ASSEMBLY

Manufacturer	Model # / Size	Material	Quantity	Comments	Thk./width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (psf, pcf)	Wt./unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments
Carpet Underlayment						320			1.5		480.00	54.00	0.00	10.00	25,920	0	4,800
Carpet						320			1.10		352.00	54.00	0.00	10.00	19,008	0	3,520
Sound dampening		Thinsulate				385			0.45		174.69	54.00	0.00	10.00	9,433	0	1,747
Dining:																	
Fwd Cabinets											100	44.50	-4.00	12.50	4,450	-400	1,250
Buffet											75	44.00	-7.00	12.50	3,300	-525	938
Table											200	48.00	-4.00	13.00	9,600	-800	2,600
Chairs			8							30	240	48.00	-4.00	12.00	11,520	-960	2,880
Aft Buffet											150	52.25	-6.00	12.50	7,838	-900	1,875
Wet Bar:																	
Counter carcass											100	50.00	5.00	12.00	5,000	500	1,200
Counter top											50	50.00	5.00	13.50	2,500	250	675
Teak overlayment						21				1.41	29.61	47.00	7.00	10.00	1,392	207	296
WET BAR SINK	BLANCO	BR313 PS	1							20	20	48.25	4.00	13.50	965	80	270
WET BAR FAUCET	JADO	862105	1							10	10	48.25	4.00	15.00	483	40	150
WET BAR REFRIGERATOR	SCOTSMAN	RF33	1							100	100	43.00	6.50	12.00	4,300	650	1,200
WET BAR ICEMAKER	SCOTSMAN	DC33	1							100	100	49.00	7.00	12.00	4,900	700	1,200
Salon:																	
U-Settee											350	58.50	-6.00	12.00	20,475	-2,100	4,200
Coffe table											100.00	58.50	-3.00	11.50	5,850	-300	1,150
Easy chairs			2							75	150	58.00	5.00	12.50	8,700	750	1,875
Stbd lockers											150	58.00	7.50	12.00	8,700	1,125	1,800
42" plasma TV											75	58.50	7.50	12.00	4,388	563	900
Misc.:																	
Window trim											150.00	54.00	0.00	15.00	8,100	0	2,250
Paint and Varnish											100	54.00	0.00	15.00	5,400	0	1,500
Locker contents											400	54.00	6.00	15.00	21,600	2,400	6,000
SKIN OUT											500	50.00	0.00	15.00	25,000	0	7,500
BLINDS			6							10	60	53.00	0.00	24.17	3,180	0	1,450
LAMP			1							5	5	53.00	-6.00	12.92	265	-30	65
VIP GUEST SR/ HEAD (FWD):																	
Sole/coverings:																	
Sole						135				2.85	384.75	16.50	0.00	6.75	6,348	0	2,597
Carpet Underlayment						40					60.00	16.00	0.00	6.75	960	0	405
Carpet						40			1.10		44.00	16.00	0.00	6.75	704	0	297
Sound dampening		Thinsulate				135			0.45		61.26	16.50	0.00	6.75	1,011	0	413
Queen size berth											150	12.00	0.00	8.75	1,800	0	1,313
Stbd Shelves											85	13.00	5.00	10.00	1,105	425	850
Port Shelves											85	13.00	-5.00	10.00	1,105	-425	850
Stbd wardrobe/shelves											100	19.00	6.00	9.75	1,900	600	975
Port Locker											60	16.50	-7.00	9.75	990	-420	585
Aft SR BHD											200	21.00	0.00	10.00	4,200	0	2,000
Head enclosure											125	18.00	0.00	10.00	2,250	0	1,250
Shower enclosure											75	18.00	2.00	10.00	1,350	150	750
Head:																	
Vanity											100	21.00	-4.00	8.25	2,100	-400	825
Vanity top											50	21.00	-4.00	10.75	1,050	-200	538
HEADHUNTER TOILET SBS-S, D HEADHUNTER			1							50	50	19.00	-4.00	7.50	950	-200	375
vinyl sole covering											25	19.00	-3.00	6.75	475	-75	169
OB locker											85	20.00	-7.50	8.00	1,700	-638	680
MIRRORED MEDICINE CABINET			1							10	10	19.17	-5.83	10.00	192	-58	100
Shower insert											100	19.00	1.00	9.50	1,900	100	950
Shower plumbing											50	20.00	1.00	9.00	1,000	50	450
Head plumbing											50	19.00	-6.00	7.50	950	-300	375
SINK	KOHLER	SPIRIA	1							20	20	21.00	-5.42	8.33	420	-108	167
FAUCET	MOEN		1							7	7	21.50	-5.42	8.33	151	-38	58
Misc:																	
Paint and Varnish											50	16.00	0.00	10.00	800	0	500
Locker contents											250	16.00	0.00	10.00	4,000	0	2,500
SKIN OUT											200	16.00	0.00	10.00	3,200	0	2,000
LAMPS	SUGATSUNE		2							5	10	8.00	0.00	7.92	80	0	79
MATTRESS		7" POLYFOAM/DACRON	1							50	50	11.00	0.00	6.83	550	0	342
FOYER:																	
Sole/coverings:																	
Carpet Underlayment						18				1.5	27.00	22.00	2.50	6.75	594	68	182
Carpet						18			1.10		19.80	22.00	2.50	6.75	436	50	134
Sound dampening		Thinsulate				18			0.45		8.17	22.00	2.50	6.75	180	20	55
Stairs to lower level											50	24.00	1.75	5.75	1,200	88	288
VIP GUEST SR's/HEADS (P&S):																	
Sole/coverings:																	
Sole						224				2.85	638.4	31.00	1.00	4.75	19,790	638	3,032
Carpet Underlayment						60				1.50	90.00	29.00	0.00	4.75	2,610	0	428
Carpet						60			1.10		66.00	29.00	0.00	4.75	1,914	0	314
Sound dampening		Thinsulate				224			0.45		101.64	31.00	0.00	4.75	3,151	0	483
Guest SR (port):																	
IB berth											75	32.00	-3.00	5.75	2,400	-225	431
OB berth											75	32.00	-7.00	5.75	2,400	-525	431
IB Dresser											60	32.00	-1.00	5.75	1,920	-60	345
IB long. BHD											70	32.00	0.00	7.75	2,240	0	543
OB dresser											50	28.75	-7.00	5.75	1,438	-350	288
Hanging locker											75	27.00	-6.50	5.75	2,025	-488	431
Nightstand											35	35.00	-5.00	5.25	1,225	-175	184
drawers under berths											75	32.00	-5.00	5.25	2,400	-375	394
Head (port):																	
Head/shower enclosure											90	25.00	-4.50	7.75	2,250	-405	698
shower insert											100	24.00	-1.50	7.75	2,400	-150	775
Vanity											50	24.00	6.00	7.75	1,200	300	388
Vanity top											25	24.00	6.00	7.75	600	150	194
HEADHUNTER TOILET SBS-S, D HEADHUNTER			1							50	50	23.00	-4.00	5.75	1,150	-200	288
SINK	KOHLER	SPIRIA	2							20	40	24.25	-6.00	7.50	970	-240	300
FAUCET	MOEN		2							7	14	24.25	-6.00	7.50	340	-84	105
Misc. (port SR/head):																	
Paint and Varnish											50	28.00	7.00	-4.50	1,400	350	-225
Locker contents											300	28.00	7.00	-4.50	8,400	2,100	-1,350
SKIN OUT											200	28.00	7.00	-4.50	5,600	1,400	-900
LAMPS	SUGATSUNE		1							5	5	35.25	-5.00	7.00	176	-25	35
MATTRESS		7" POLYFOAM/DACRON	2							50	100	32.00	-5.00	6.25	3,200	-500	625
VIP/Guest SR (stbd):																	
Nightstand											35	28.50	7.00	5.25	998	245	184
queen size berth											150	32.00	5.00	5.75	4,800	750</	

SYSTEM SUB-ASSEMBLY

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Head (stbd):																				
head enclosure												175	37.50	6.00	7.75	6,563	1,050	1,356		
Head/shower enclosure												90	25.00	7.00	7.75	2,250	630	698		
shower insert												100	24.00	7.00	7.75	2,400	700	775		
Vanity												50	37.50	8.00	6.50	1,875	400	325		
Vanity top												25	37.50	8.00	6.75	938	200	169		
HEADHUNTER TOILET SBS-S, D HEADHUNTER												1	50	37.00	4.00	5.75	1,850	200	288	
SINK KOHLER SPIRIA												1	20	20	38.00	8.00	7.50	760	160	150
FAUCET MOEN												1	7	7	38.00	8.00	7.50	266	56	53
Misc (stbd SR/head):																				
Paint and Varnish												50	32.00	5.00	7.50	1,600	250	375		
Locker contents												250	32.00	5.00	7.50	8,000	1,250	1,875		
SKIN OUT												200	32.00	5.00	8.00	6,400	1,000	1,600		
LAMPS SUGATSUNE												5	10	32.00	5.00	7.50	320	50	75	
MATTRESS 7" POLYFOAM/DACRON												1	50	32.00	5.00	7.50	1,600	250	295	
MASTER SR/HEAD:																				
Sole/coverings:																				
Sole												280	2.85	798	46.00	0.00	2.75	36,708	0	2,195
Carpet Underlayment												70	1.50	105.00	46.00	0.00	2.75	4,830	0	289
Carpet												70	1.10	77.00	46.00	0.00	2.75	3,542	0	212
Sound dampening Thinsulate												280	0.45	127.05	46.00	0.00	2.75	5,844	0	349
Foyer: WASHER/DRYER STACK MAYTAG LSE 7804												1	340	340	37.50	-2.00	5.75	12,750	-680	1,955
Head:																				
head enclosure												150	42.00	-5.00	5.75	6,300	-750	863		
tub/shower												125	41.00	-3.00	3.75	5,125	-375	469		
Vanity												85	41.00	-7.00	5.75	3,485	-595	489		
Vanity top												40	41.00	-7.00	6.00	1,640	-280	240		
HEADHUNTER TOILET SBS-S, D HEADHUNTER												1	50	37.50	-5.00	3.50	1,875	-250	175	
SINK KOHLER SPIRIA												2	20	40	37.50	-7.00	6.00	1,500	-280	240
FAUCET MOEN												2	7	14	37.50	-7.00	6.00	525	-98	84
OB lockers												90	42.00	-9.00	6.00	3,780	-810	540		
Linen lockers												90	37.00	-6.50	6.00	3,330	-585	540		
Master SR:																				
King size berth												150	50.50	0.00	3.75	7,575	0	563		
drawers under												60	50.50	0.00	3.75	3,030	0	225		
port vanity/dressers												125	48.00	-8.00	3.75	6,000	-1,000	469		
port hanging locker												80	52.50	-7.50	7.00	4,200	-600	560		
port nightstand												25	53.50	-4.00	5.00	1,338	-100	125		
stbd nightstand												80	53.50	4.00	5.00	4,280	320	400		
stbd hanging locker												80	52.50	7.50	7.00	4,200	600	560		
stbd settee												85	48.00	8.00	5.00	4,080	680	425		
stbd dressers												50	48.00	8.00	5.00	2,400	400	250		
DESK CHAIR												1	20	20	46.50	-6.00	4.17	930	-120	83
Misc (SR/head):																				
Paint and Varnish												50	32.00	5.00	7.50	1,600	250	375		
Locker contents												250	32.00	5.00	7.50	8,000	1,250	1,875		
SKIN OUT												200	32.00	5.00	8.00	6,400	1,000	1,600		
LAMPS SUGATSUNE												5	10	32.00	5.00	7.50	320	50	75	
MATTRESS 7" POLYFOAM/DACRON												1	50	32.00	5.00	7.50	1,600	250	295	
ELECTRONIC SAFE 15' x 15' x 15'												1	50	50.50	3.00	3.33	2,525	150	167	
ENGINE ROOM:																				
ER sole												140	2.0	280	62.00	0.00	2.00	17,360	0	560
CREW QUARTERS/HEAD:																				
Sole/coverings:																				
Sole												144	2.85	410.4	74.50	0.00	3.00	30,575	0	1,231
Teak overlayment												55	1.41	77.55	74.50	0.00	3.00	5,777	0	233
Sound dampening Thinsulate												144	0.45	65.34	74.50	0.00	3.00	4,868	0	196
Crew lounge:																				
settee												100	77.75	-3.00	4.50	7,775	-300	450		
table												40	76.50	-2.00	5.00	3,060	-80	200		
counter												60	71.75	-2.00	5.00	4,305	-120	300		
microwave												25	71.00	-2.00	8.00	1,775	50	200		
stairs to swimstep												35	78.50	0.00	4.00	2,748	0	140		
emergency ladder												40	76.50	3.00	6.00	3,060	120	240		
Crew head:																				
head enclosure												100	72.00	5.00	6.00	7,200	500	600		
vanity												50	70.75	3.00	4.50	3,538	150	225		
vanity top												25	70.75	3.00	4.50	1,769	75	113		
HEADHUNTER TOILET SBS-S, D HEADHUNTER												1	50	71.00	5.25	4.00	3,550	263	200	
SINK KOHLER SPIRIA												2	20	40	70.75	3.00	6.00	2,830	120	240
FAUCET MOEN												2	7	14	70.75	3.00	6.00	991	42	84
SHOWER MODULE												1	100	100	70.75	7.50	6.00	7,075	750	600
Captain's SR:																				
long, BHD												75	75.50	2.50	6.00	5,663	188	450		
queen size berth												150	76.50	7.50	4.50	11,475	1,125	675		
drawers under												20	75.50	6.00	4.50	1,510	120	90		
wardrobe												80	78.50	2.50	6.00	6,280	200	480		
dresser												40	78.50	4.25	5.00	3,140	170	200		
Crew SR:																				
lower berth												100	73.50	-7.50	4.00	7,350	-750	400		
upper berth												100	72.00	-6.00	7.75	7,200	-600	775		
wardrobe under												70	72.00	-5.00	7.75	5,040	-350	543		
dresser												50	78.00	-5.00	6.00	3,900	-250	300		
Misc:																				
TOILET PAPER HOLDER												1	1	71.50	5.00	3.75	72	5	4	
ROBE HOOK												2	1	71.50	5.00	4.17	143	10	8	
TOWEL RINGS												2	1	71.50	5.00	4.17	143	10	8	
Locker contents												300	74.50	5.00	0.00	22,350	1,500	0		
Paint and Varnish												50	75.50	0.00	6.00	3,775	0	300		
SKIN OUT												200	75.50	0.00	6.00	15,100	0	1,200		
FLYBRIDGE:																				
JOINERWORK																				
INSTRUMENT CONSOLE												50	50.00	41.00	0.00	20.00	2,050	0	1,000	
U-settee cushions												100	100.00	54.00	-5.00	19.00	5,400	-500	1,900	
settee cushions												50	50.00	54.00	6.00	19.00	2,700	300	850	
SS WINDSHIELD FRAME STAINLESS STEEL 316												50	50.00	37.00	0.00	21.00	1,850	0	1,050	
SUNBATHE CUSHIONS												10	40.00	62.00	-3.00	20.00	2,480	-120	800	
STEERING WHEEL SCHMITT & S' 28", #153 STAINLESS STEEL 316												1	10	10.00	42.25	0.00	20.00	423	0	200
BAR-B-Q UNIT												1	50	50.00	60.50	-5.00	20.00	3,025	-250	1,000
REFRIGERATOR SCOTSMAN RF33												1	100	100.00	59.00	6.00	20.00	5,900	600	2,000
SINK AVONITE N/A												20	20	20.00	60.00	6.00	20.00	1,200	120	400
FAUCET BLANCO 157072												1	10	10.00	58.00	6.00	20.00	580	60	200
HELM CHAIR Slidd 500/200												2	85	85.00	44.00	0.00	20.00	3,740	0	1,700

SYSTEM SUB-ASSEMBLY

Manufacturer	Model # / Size	Material	Quantity	Comments	Thk./width (in., ft.)	Area (sq. ft.)	Length (ft.)	Volume (cu. ft.)	Density (pcf, pcf)	Wt./unit (lbs.)	Total Weight (lbs.)	LCG (ft.)	TCG (ft.)	VCG (ft.)	L Moments	T Moments	V Moments
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ACCOMODATION AND JOINERY TOTALS 27,610 1,199,930 13,157 255,138

EQUIPMENT/ACCESSORIES

SHORE BOAT:

Tender #1	Novurania	430	1					1500		1500	71.67	0.00	18.50	107,505	0	27,750
Tender #1 chocks			2					40		80	71.67	0.00	18.50	5,734	0	1,480

SAFETY:

Life raft			2					200		400	74.00	0.00	7.00	29,600	0	2,800
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MISC. EQUIPMENT:

Fenders			10					10		100	78.00	0.00	7.00	7,800	0	700
Lines			1					300		300	78.00	0.00	7.00	23,400	0	2,100
Tools			1					500		500	67.00	0.00	7.00	33,500	0	3,500
Spares			1					250		250	67.00	0.00	7.00	16,750	0	1,750

PAINTING:

Hull bottom paint	Interlux	Micron CSC Extra			1318			0.21	276.78	276.78	52.88	0.00	2.33	14,636	0	646
Hull epoxy coating					2879			0.21	604.59	604.59	52.88	0.00	2.33	31,971	0	1,409
Topside paint					1480			0.15	222	222	52.88	0.00	2.33	11,739	0	517

EQUIPMENT/ACCESSORIES TOTALS 4,233 282,635 0 42,652

TANKAGE

Ready for Sea:

	Tank Capacity	Percent Full															
Black water Tank	200	0	0	8.32	0	41.25	0.00	1.25	0	0	0	0	0	0	0	0	0
Water Tank	400	100	400	8.32	3328	50.58	0.00	2.58	168,330	0	8,586						
Main Diesel Tanks	2400	100	2400	7.25	17400	55.83	0.00	6.25	971,442	0	108,750						
Total			20728						1139772	0	117336						

Half Range:

Black water Tank	200	50	100	8.32	832	41.25	0.00	1.75	34,320	0	1,456						
Water Tank	400	75	300	8.32	2496	50.58	0.00	2.25	126,248	0	5,616						
Main Diesel Tanks	2400	50	1200	7.25	8700	55.83	0.00	5.00	485,721	0	43,500						
Total			12028						646289	0	50572						

Full Range:

Black water Tank	200	100	200	8.32	1664	41.25	0.00	2.00	68,640	0	3,328						
Water Tank	400	75	300	8.32	2496	50.58	0.00	2.25	126,248	0	5,616						
Main Diesel Tanks	2400	10	240	7.25	1740	55.83	0.00	4.00	97,144	0	6,960						
Total			5900						292032	0	15904						

Heavy Ship:

Black water Tank	200	100	200	8.32	1664	41.25	0.00	2.00	68,640	0	3,328						
Water Tank	400	100	400	8.32	3328	50.58	0.00	2.58	168,330	0	8,586						
Main Diesel Tanks	2400	100	2400	7.25	17400	55.83	0.00	6.25	971,442	0	108,750						
Total			22392						1208412	0	120664						