

SHTP ELECTRICAL BUDGET

by Bob Johnston November 2015

DC Loads:

Lighting

Masthead TriColor (LED)
Cabin Lights (LED)
Total Ah/Day - Lighting

Example: J/92 Ragtime!

Amps	Hours	Ah/Day
0.47	10	4.7
0.27	4	1.1
		5.8

Galley

(None)
Total Ah/Day - Galley

Amps	Hours	Ah/Day
		0.0

Electronics

Autopilot (add when engaged)
VHF (receive) & small GPS
VHF (transmit)
SSB (receive)
SSB (transmit)
SSB Digital Controller
Instruments
Large chartplotter
Computer (screen off)
Computer (screen on)
Stereo and iDevice charger
Total Ah/Day - Electronics

Amps	Hours	Ah/Day
1.70	6	10.2
0.74	24	17.8
4.90	0	0.0
2.00	1	2.0
28.00	0.25	7.0
0.20	24	4.8
0.55	24	13.2
0.74	8.5	6.3
1.00	0.5	0.5
1.40	2	2.8
0.49	4	2.0
		66.5

Plumbing

Bilge Pump
Total Ah/Day - Plumbing

Amps	Hours	Ah/Day
5.00	0	0.0
		0.0

Inverter

DC Adapter (incl. w/computer)
Total Ah/Day - Inverter

Watts	Hrs/day	Ah/Day
		0.0
		0.0

Gross Energy Consumption - Ah/Day

72.3

Alternative Energy Sources:

43 watt solar panels (2)
42 watt flexible panel
Contribution of AES - Ah/Day

Amps	Hrs/day	Ah/day
4.80	7	33.6
2.00	7	14.0
		47.6

Net Energy Consumption, Ah/Day

24.7

Desired Hours Between Charging

24

Range of Battery Use (50-85% charge state)

0.35

Recom. Battery Capacity (See actual capacity below)

71

Alternator Output, Amps (rated @ 35 Amps)

26.0

Charge Efficiency Factor (AGM batteries)

0.95

Minimum Minutes to Charge

60

For Ragtime!

Actual Battery Capacity = 2@92Ah house + 1@26 Ah starting = 210Ah

Fuel: Engine uses < 1/4 gal/hour x 12 gal tank = 50+ hours charging