

Party Boat Bill of Materials

HULL MATERIAL LISTING: The following material listing is an estimate of the materials required to build the 20' 4" basic hull and is intended to serve as a general guide only. Check the various options and alternatives to the plans, to the work, and to the materials which may be available in the area in which the hull will be built.

The listing may also vary due to the amount of waste and other variables that cannot be controlled. **LUMBER:** All lumber used should be first grade, free from knots, shakes, checks, or other defects. Grouping lumber and purchasing "random-random" material and re-sawn to the required size will result in considerable savings. All lumber sizes should be checked to the work before purchasing wherever possible. Lumber typical to the locale and proven in use in boats of similar type can be used as long as the weight, strengths, and characteristics are similar. Suitable boatbuilding woods include Douglas-fir (D.F.), white oak, mahogany (Mahog.- Philippine dark red, American, or African types commonly used in boats), Sitka spruce, Alaskan or Port Orford cedar, and yellow pine. All 1" lumber is standard "four quarters" lumberyard stock, usually finished to 3/4" thickness, while all widths are net. All 2" thick material is standard lumberyard stock in both width and thickness. Widths of 2" x 2" stock may be a split 2" x 4"s and 2" x 3" split 2" x 6" stock; both will provide widths slightly greater than that noted. Construction grade 2" lumber is generally unacceptable as it is seldom properly dried. All lengths listed allow for cutting to fit.

CHECK ALL SIZES TO THE WORK PRIOR TO CUTTING. Abbreviations used are: Mahog = mahogany; SP=Spruce; DF = Douglas-fir; PW=plywood; Ext=exterior; MAR=marine.

ITEM	MATERIAL	NO. PCS.	SIZE
LUMBER:			
Transom #0:			
Side & bottom frame	DF	1	2" x 4" x 10'
Bottom frame 2nd lam.	Mahog	1	1" x 4" x 8'
Top frame	DF	1	2" x 6" x 8' 6"
	DF		
Vertical alongside motorboard	DF	1	2" x 4" x 4'

Frames #1, 2, & 3:			
Side frame members Bottom frame member Set up cleat Floor timber	Mahog Mahod DF DF	1 1 1 1	1" x 8" x 9' 1" x 3" x 88" 2" x 3" x 7' 2" x 6" x 6' makes three
Frame #4:			
Side frame member Bottom frame members Set up cleat Floor timber	Mahog Mahog DF DF	1 1 1 1	1" x 7" x 3' 6" 1" x 3" x 7'6" 2" x 3" x 6' 2" x 6" x 2'
Frame #5:			
Side frame members Bottom frame members Set up cleat Floor timber	Mahog Mahog DF DF	1 1 1 1	1" x 4" x 3' 1" x 3" x 6' 2" x 3" x 6' 2" x 6" x 20"
Harpin #6	Mahog Mahog	2 1	1" x 6" x 7' 1" x 4" x 4'
BW frames	Mahog	1	1" x 1 1/2" x 20 lin. ft.
Keel	DF	1	2" x 6" x 16'
Chine	Mahog	4	5/8" x 2" x 22' *
Sheer	Mahog	2	1" x 2" x 12'
Longi base	Mahog	2	1" x 1 1/2" x 16' **

Longi cleat	Mahog	2	1" x 1 1/2" x 16'
BW cleat on sheer	Mahog	2	1" x 1 1/2" x 13' **
BW bow cleat on #9 arc.	Mahog	1	1' x 7" x 5' makes two halves
BW cleat atop #11	Mahog	1	1" x 5" x 5' makes two halves
BW sheer on #9	Mahog	2	1" x 3" x 8'
End of foredeck cross cleat	DF	1	2" x 4" x 6'
Fwd. Seat supports	Mahog	1	1" x 1 1/2" x 8' makes three
Fwd side seats support	DF	2	2" x 4" x 7'
Fwd side seat along coaming	Mahog	2	1" x 1 1/2" x 7'
Aft seat coaming and longi cleats	Mahog	1	1" x 1 1/2" x 6'
Aft seat/motorwell cleat	DF	1	2" x 4" x 8'
Longi 2" upright blocking	DF DF	1 1	2" x 4" x 4' 2" x 2" x 4'
Carling & BW sheer	Mahog	4	1" x 1" x 20' *

Transom cross cleat on knee	DF	1	2" x 4" x 4'
Motorwell blocking	DF	1	2 " x 2" x 8' **

* May be joined from shorter lengths, see text. ** Need not be in full length, check plans and text.

PLYWOOD: All plywood must be intended for marine (MAR) or exterior (ext.) use; interior grades are not acceptable. The marine grade panel features higher grade inner ply cores, while the exterior plywood grade cores may have voids not apparent to the eye, and may also use those made from woods not as suitable for marine applications. In most cases, the glues used in both the marine and exterior panels are the same waterproof type, however, the decision to use exterior panels in lieu of marine panels must lie with the builder, considering the particular use of the panel in the boat and the expected service. The letters A, B and C designate the grade of the exterior veneers with A grade the best, etc. Douglas fir (DF) plywood is acceptable for all plywood, although mahogany or other attractive veneers are preferable in many instances. The plywood planking, bottom and side, is preferably full marine grade, optionally but not listed, the initial bottom layer can be an exterior grade.

PLYWOOD:

Frame gussets, keel lam & BW frames	DF Ext. AB	1	3/8" x 4' x 8'
Frame bulkheads #1 thru #3 & #8 lam	DF Ext. AB	2	3/8" x 4' x 8'
Sides	MAR AA or AB	3	3/8" x 4' x 8'
Bottom	MAR AA or AB	12	3/8" x 4' x 8'
Longi's & web	Ext AA or AB	1	3/8"x 4' x 8'

Bulwark covering, top & sides	DF Ext AB	2	3/8" x 4' x 8'
Deck #9, #2, #7, & motorboard	DF Ext AB	2	3/4" x ' x 8'
Transom #0 & stem #6	DF Ext. AB	2	3/4" x 4' x 8'
Sole	DF Ext AC	3	3/4" x 4' x 8'
Seat tops	DF Ext AC	2	5/8" x 4' x 8'
OB, motorwell sides & bottom	DF Ext AB	1	1/2" x 4' x 8'
Coaming & cabinetry	DF Ext AB or AC	*see note 3/8" x 4' x 8'	

* Scrap 3/8" plywood from other members can be used for much of the interior structure; check available remaining material and order as required.

FASTENINGS:

Screws: Flathead wood type, bronze or hot dipped galvanized

- 1" #8 - 2 gross
- 1-1/4" #8 - 5 gross
- 1-1/2" #8 - 6 gross
- 2" #10 - 1 gross
- 3" #14 - 1 gross

Nails: Ring type boat nails, bronze or Monel

- 1" - 5 pounds
- 1-1/4" - 1 pound

Carriage bolts: Hot dipped galvanized or bronze with nut and washer; lengths to be taken from the work. (Can be counterbored in knee and stem.)

- 3/8" = 2 required at stem/keel junction.
- 3/8" = 4 required for knee to transom

Glue: Epoxy - 2 gallons

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