

# Mark Twain Bill of Materials

The following list of materials is intended to be a general guide only. Before ordering any materials, the text and plans should be checked for possible options. All lumber listed as 1" stock is to be standard "lumberyard four-quarter" material which when finished may vary to somewhat less or slightly more than 3/4" in thickness. All widths are NET and all lengths allow for cutting to fit. Grouping lumber and purchasing random-random material to resaw to the required size will result in considerable savings. All lumber used should be first grade free from shakes and knots. Although spruce (Sitka variety) and mahogany (dark red Philippine type) are called out in the listing, lumber typical to the locale and of similar types and weights may be substituted. All plywood (PW) is to be marine (MAR) or exterior (EXT) grade. The marine-type is preferable as the inner cores are solid and thus the panel has more structural integrity. Douglas-fir (DF) is satisfactory with the quality of the exposed faces of the veneer being designated by the letters "A" or "B". The "AA" grade panels are always preferable, however, "AB" grade is acceptable. All plywood should be a minimum of three plies. All fastenings should be bronze or hot dipped galvanized ferrous metal. Brass fastenings are not advised nor are the electroplated screws commonly sold in hardware stores. All screws are to be of the flat head type intended for wood. All nails are of the ring-type nail common to boat construction. Unless otherwise specified, all wood-to-wood joints are to be glued with a waterproof or highly water resistant glue such as plastic resin, resorcinol, epoxy, or other equivalent type used per the manufacturer's instructions regarding temperature, clamping requirements, curing time, and mixing method.

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; LF=linear feet.

ITEM	MATERIAL	SIZE	NO. PCS: 28'	32'	36'	40'
<b>LUMBER:</b>						
Bulkhead & Transom framing	Mahog or Oak	1-1/4" x 4" 1-1/4" x 3"	120 lin ft 12 lin ft	140 lin ft 12 lin ft	160 lin ft 12 lin ft	180 lin ft 12 lin ft
Spreader Cleats & Bulkhead "C"	Mahog or Oak	1-1/4" x 3"	4 lin ft	4 lin ft	4 lin ft	4 lin ft
Inter. deck beam brackets	Mahog or Oak	1-1/4" x 3"	35 lin ft	42 lin ft	49 lin ft	56 lin ft

Bulkhd Deck beams	DF	2"x6"x12' 2"x6"x10'	-- 6 rqd.	-- 7 rqd.	8 rqd. --	9 rqd. --
Int. deck beams	Mahog or Oak	1-1/4"x5- 1/2"x12' 1-1/4"x5- 1/2"x10'	-- 5 rqd.	-- 6 rqd.	7 rqd. --	8 rqd. --
Skegs	DF	2" x 6" x	12 1/2 rqd.	16 1/2 rqd.	20 1/2 rqd.	24 1/2 rqd.
Chine logs	Mahog or Oak	1-1/4" x 2" x	26 1/4 rqd.	30 1/4 rqd.	34 1/4 rqd.	38 1/4 rqd.
Keels	Mahog or Oak	1-1/4" x 3" x	25 1/2 rqd.	29 1/2 rqd.	33 1/2 rqd.	37 1/2 rqd.
Seam battens	Mahog or Oak	1-1/4" x 2" x	28 1/2 rqd.	32 1/2 rqd.	36 1/2 rqd.	40 1/2 rqd.
Side planking battens	Mahog or Oak	1-1/4" x 2" x	28 1/2 rqd.	32 1/2 rqd.	36 1/2 rqd.	40 1/2 rqd.
Deck Clamps	Mahog or Oak	1-1/4" x 2" x	24 1/2 rqd.	28 1/2 rqd.	32 1/2 rqd.	36 1/2 rqd.
Inner/outer sheer clamps	Mahog or Oak	1-1/4" x 2" x 8'	4 rqd. All versions			
Motor well clamps	Mahog or Oak	1-1/4" x 2" x 8'	2 rqd. All versions			
Motor well members	Mahog or Oak Mahog or Oak	1-1/4" x 2" x 20' - All versions (outboards only) 1" x 1-1/2" x 8' - All versions (outboards only)				
Rub rails	Mahog or Oak	1" x 3" x	21 1/2 rqd.	25 1/2 rqd.	29 1/2 rqd.	33 1/2 rqd.
Deck edge caps	Mahog or Oak	1" x 8" x	11 1/2 rqd.	11 1/2 rqd.	13 1/2 rqd.	13 1/2 rqd.
Tunnel battens	Mahog or Oak	1" x 2" x	20 1/5 rqd.	24 1/5 rqd.	28 1/7 rqd.	32 1/7 rqd.
Tunnel batten blkg	Mahog or Oak	1" x 2" x	18 lin ft	18 lin ft	32 lin ft	32 lin ft
*Material to match net width of bulkhead deck beams. Douglas fir, 2" x 6" may be used alternately.						
<b>PLYWOOD:</b>						
Transom, stems, breasthooks	DF Ext AB	3/4"x4'x8' - 2 sheets all versions				
Bow decking, motor wells	DF Ext AB	1/2"x4'x8' - 1 sheet all versions				
Bulkheads	DF Ext AB	3/8"x4'x8'	4	5	5	6
Tunnel planking	DF Ext AB	1/4"x4'x8'	4	4	7	8

Decking	DF Ext AC	3/4"x4'x10"*	5	6	--	--
	DF Ext AC	3/4"x4'x12"*	--	--	7	8
Planking & butt blks	DF MAR AA or Ext AB	3/8"x4'x16"*	2	4	--	--
		3/8"x4'x14' *	6	--	2	10
		3/8"x4'x12' *	--	4	10	2
		3/8"x4'x10"*	--	2	--	--

\* Can substitute 4' x 8' sheets, adjust quantities accordingly.

### FASTENINGS:

Size	28'	32'	36'	40'
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#### Screws: Flathead wood type, bronze or hot dipped galvanized

3/4" #8	5 gross	5 gross	6 gross	6 gross
1" #8	16 gross	19 gross	23 gross	26 gross
1-1/4" #8	2 gross	2 gross	2 gross	2 gross
1-1/2" #8	3 gross	4 gross	5 gross	5 gross
2" #10	8 gross	9 gross	10 gross	11 gross
3" #14	4 each	4 each	4 each	4 each

#### Nails: Ring type boat nails, bronze, stainless steel or Monel

1-1/4"	3 lbs	3 lbs	3 lbs	3 lbs
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#### Carriage Bolts: Bronze or hot dipped galvanized complete with nuts and washers. Check all lengths to work

5/16" x 4" to 6" long

**Glue:** Epoxy 5 gallons