

## Land Ship in a Bag Masts buy list & build instructions

### Buy list

Quantity	Description	Approximate cost	Totals
1	10' of 1" PVC Sch 40	\$3.22	3.22
1	5' of ½" PVC Sch 40	\$1.43	1.43
3	1" PVC T tee	\$0.74	2.22
1	1" PVC + cross	\$2.22	2.22
2	1" PVC couplings	\$0.42	0.84
4	1" male to ½" female PVC adapter	\$0.86	3.44
4	½" PVC cap	\$0.30	1.20
1	½" PVC 45° elbow	\$0.62	0.62
1	1" PVC cap	\$0.59	0.59
5	2" cleat	\$1.78 Pr	5.34
12	1" snaps	\$.50 to \$2.50 es	28.20
5	¼" screw eyes	\$1.18 for 8	1.18
50'	1/8" white braided line	\$2.60	2.60
2	2x8 boards 9" long	\$5.10 per 8'	5.10
150'	¼" braided line, preferably yellow or other bright color	\$8.42 per 100'	16.84
16 or more	¾" nuts for line weights	\$0.89 ea.	14.24
1	Appropriate size U.S. Ensign, suggest 8" x 20"	\$1.5 to 48.00	3.50
1	Bell (optional, see notes)	\$10 to \$85	
optional	Skipper flag, Commodore Flag(s), Sea. Scout Burgee		
			87.53

### Build Instructions

1. Use acetone to remove all printing from pipes and fittings before starting assembly
2. Cut 1" PVC into 4 ea. 29 ½" pieces & 1 ea. 2" piece, sand outside of 1 end of all 5 to enable easy assembly & disassembly
3. Cut ½" PVC into 4 ea. 14" pieces & 1 ea. 1 ½" piece, sand outside of 1 end of all 5 to enable easy assembly & disassembly
4. Cut 2 ea. 1" T in half lengthwise to make 2 bases see figs. 1B & 1T
5. Drill 2 holes at either end of base support see Fig. 1s
6. Mount base support to center of 2x8x9" see Fig. 2
7. Glue 1 ea. 1" to ½" adapter in to side of 3<sup>rd</sup> T see fig. 3
8. Glue 1 ½" piece of ½" PVC into ½" adapter in 1" Tee see fig. 3
9. Glue 4 ea. ½" caps to 1 end of each of 4 14" ½" PVC pipes see fig. 4
10. Glue 3 ea. 1" to ½" adapters onto one ends of pipes from step 9 see fig. 4
11. Glue ½" PVC elbow to 1 end of a 14" ½" PVC to make gaff see fig. 5
12. Glue 2 ea. arm assemblies from step 10 to opposing sides of the cross see fig. 6
13. Glue 2" piece of 1" PVC into one of other openings of 1" Cross making yardarm assembly see fig. 6
14. Glue 2 ea. 1" PVC couplers to the non-sanded end of 2 ea. 29 ½" PVC pipes to make the bottom section of both masts see Fig. 7

15. Glue 1" PVC cap to the non-sanded end of 1 ea. 29 1/2" PVC pipe to make the top of the stern mast see Fig. 8
16. Glue 1" PVC Tee to the non-sanded end of 1 ea. 29 1/2" PVC pipe to make the middle section of the main mast see Fig. 9
17. If desired paint all fittings not pipes at this time
18. Install 5 screw eyes 1/2" from capped end of the 4 ea. 1/2" pipes and 1 into the capped end of top of stern mast see fig. 10
19. Install 4 ea. cleats 2 1/4" to lower hole up from sanded end of middle section see fig. 9
20. Install 1 cleat 2 1/4" to lower hole up from sanded end up from sanded end of stern mast upper section see Fig. 11
21. Insert 1 bottom section into each of the Base assemblies see Fig. 12
22. Insert middle section of main mast into 1 of the lower section
23. Insert top section of stern mast into other lower section
24. Insert yardarm assembly into T of main mast middle section
25. Insert top mast of main mast 3<sup>rd</sup> arm from step 10 into top opening of cross
26. Connect gaff onto 1/2" stub of T see fig. 13 (optional)
27. Assemble all flag lines (cut to length and snaps tied to the ends) to their respected cleats
28. NOTE you can eliminate yardarm assembly and insert top mast of main mast into top of middle section to make a main mast without yardarms

## **29. Congratulations, you now have both of the masts finished see fig. 14A & B**

30. To make the Land Ship outline
31. Cut the 1/4" line into 100' & 50'.lengths
32. Mark the center of both lengths
33. Tie 1 nut into the center position of both lines with a square knot
34. Tie 1 nut at each end of both lines with bowline knots
35. Tie the other nuts as needed to make the appropriate size/shape Land Ship using a loop knot as seen in Fig. 15-18 to keep the line in a proper shape
36. To make stantions, duplicate Base assembly and lower mast section for as many as you need
37. Cut 1" PVC (into how many stantions you are making) ea. 2 1/2" pieces, sand outside of 1 end of all pieces to enable easy assembly & disassembly
38. Glue the non- sanded end into the side of 1" PVC T see Fig. 19
39. To use insert PVC stub into mast lower section and feed the line through the straight part of the T see Fig. 20
40. See Fig. 21 for typical complete layout

Note: I found a source for a 4" brass bell. However it is made to mount on a flat surface so that to mount it on a 1" pipe requires making a putty epoxy adapter from flat to curved.

[http://www.amazon.com/gp/offer-listing/B0030F8GZS/ref=sr\\_1\\_9\\_olp?ie=UTF8&qid=1355438506&sr=8-9&keywords=ship%27s+bell&condition=new](http://www.amazon.com/gp/offer-listing/B0030F8GZS/ref=sr_1_9_olp?ie=UTF8&qid=1355438506&sr=8-9&keywords=ship%27s+bell&condition=new)

Note: If any Ship does not want to build this, Ship 911 will build what you need as a fund raiser.

Contact [Scouting@cls-graphics.com](mailto:Scouting@cls-graphics.com)



Fig. 1B



Fig 1T



Fig 2



Fig 3



Fig 4



Fig 4A



Fig 5



Fig 6



Fig 7



Fig 8



Fig 9



Fig 10



Fig 11



Fig 12



Fig 13



Fig 14A

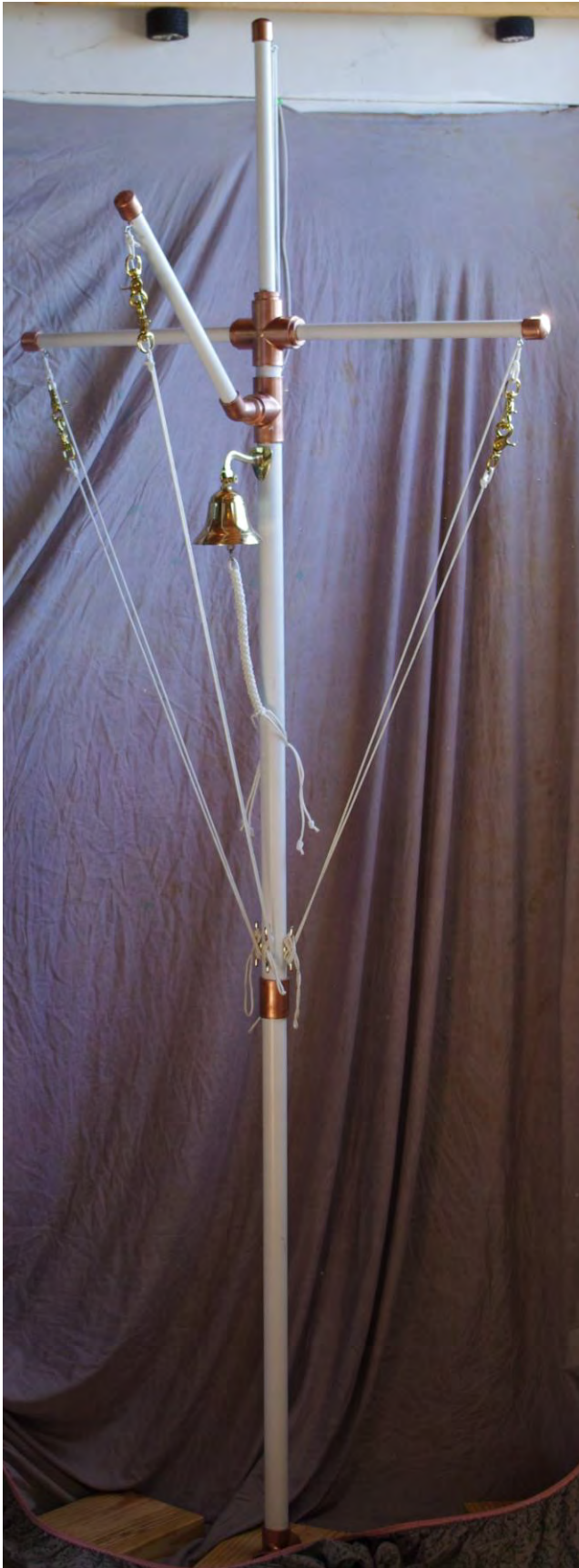


Fig 14B



Fig 20



Fig 15



Fig 16



Fig 17



Fig 18



Fig 19

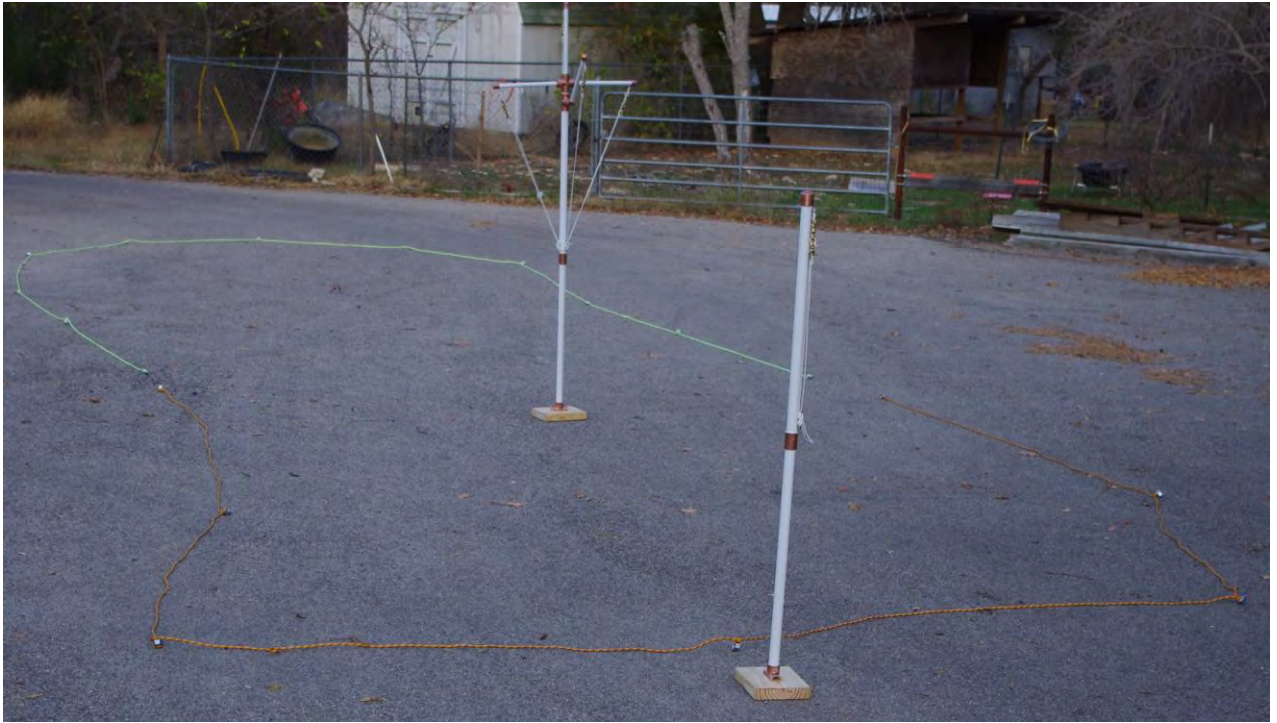


Fig 21