## A Pair of Transportable, Take-Down Boxes Robyyan Torr d'Elandris, OL

Have you ever wanted to have a neat looking camp? Do you get tired of seeing thermoplastic coolers and assorted other stuff at your camping events? Do you have a limited amount of cargo space when travelling to everts? Then, this set of boxes is for you!

These boxes are designed to have the appearance of a medieval panel chest, and may be decorated as you like. However, they come apart for easy travel, and are made of relatively inexpensive and readily available materials. The instructions that follow will construct two boxes, one at a finished size of approximately $1^{\prime} 6 " ' x 2^{\prime} 6 "$ x l'6" and another at approximately l' x 2' x 1' Don't be surprised when you are done if the smaller box looks much larger then you expect.

## Materials needed:

$1-4$ 'x 8 ' sheet of exterior plywood, $\mathrm{b} / \mathrm{c}$ grade or better, $3 / 8^{\prime \prime}$ or $1 / 2^{\prime \prime}$
Approx 60 ' of $1 \times 4$ clear pine - get a little, more, or lot more if it's warped and full of knots
12-2" loose-pin hinges
Glue - a quart will be more then plenty. Use a good quality carpenter's glue
Screws - 1" number 8 wood screws, enough. to mount the hinges
Some method of clamping the 1 x 4 to the plywood while the glue dries - this can be clamps, screws put in from the back that will be left there, heavy staples, or even nails

## Tools needed:

A saw to cut the plywood and 1x4 A screwdriver to mount the hinges Measuring tape

Instructions:

1. Cut the plywood according to Figure 1. Be sure all cuts are straight and square.


Figure 1
2. Cut the $1 \times 4$ according to the following list. Match up the part letters with Figure 2. The following symbols are used:
[PT] is the thickness of the plywood you are using, either $3 / 8^{\prime \prime}$ or $1 / 2^{\prime \prime}$
[T] is the actual thickness of the $1 \times 4$, usually about $3 / 4$ "
[W] is the actual width of the $1 \times 4$, usually about $33 / 4 "$


A: 2 pieces at $2^{\prime} 6^{\prime \prime}+2[\mathrm{~T}] \quad$ (for large box)
2 pieces at $2^{\prime} 0^{\prime \prime}+2[\mathrm{~T}] \quad$ (for small box)
B: 8 pieces at $1^{\prime} 6^{\prime \prime} \quad$ (for large box)
8 pieces at $1^{\prime} 0^{\prime \prime} \quad$ (for small box)
C: Measure and cut 2 pieces during assembly. The smaller box does not use this piece.

Figure 2

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\begin{array}{ll}
\text { D: } 2 \text { pieces } 2^{\prime} 6^{\prime \prime}-2[\mathrm{~W}]+2[\mathrm{~T}] & \text { (for large box) } \\
2 \text { pieces } 2^{\prime} 0^{\prime \prime}-2[\mathrm{~W}]+2[\mathrm{~T}] & \text { (for small box) }
\end{array}
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F: 2 pieces 1'6" (for large box)
    2 pieces 1'0" (for small box)
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G: 2 pieces 1'6" - 2[W] (for large box)
2 pieces 1'6" $-2[\mathrm{~W}] \quad$ (for small box)
3. Trim [PT] from 2 opposite edges of all the end pieces of plywood, see Figure 3. The trimmed edges will be the sides of the end pieces. This is necessary so

Figure 3


Thickness of Plywood that the top and bottom will fit properly - if you need to understand why, you can skip ahead for a quick glance at Figure 7 for a clue. You might mark the top at this point to avoid confusion over which is the top and which is the sides later.
4. Trim [PT] from all 4 sides of the bottom pieces, and trim the corners. See Figure 4. (If you don't trim the corners, it will be difficult to get the bottom in and out of the box.
5. Assemble one side. Attach part A to the good side of the plywood, using plenty of glue, and either screws, heavy staples, or clamps to hold it all together until the glue dries, making sure the 1 x 4 sticks above the plywood by [PT], and extends [T] beyond each edge. Attach the legs (parts B) in place keeping an even $[\mathrm{T}]$ overhang at the edge. Attach part D, making sure it is straight. See Figure 5.



Figure 5
6. Assemble all the other sides. Make sure to keep the overlaps constant, and part D at the same height from the bottom of the legs.
7. Attach part C to the larger sides. Make sure it is centered and straight.
8. Assemble one end. Attach part F to the good side of the plywood, making sure the $1 \times 4$ sticks above the ply by [PT] and extends [PT] beyond each edge. Attach the legs (parts B) in place, keeping an even [PT] overhang at the edge. Attach part G in place, making sure it is straight and at the same height as the parts D See Fig. 6.
9. Assemble the other ends.
10. Mount the hinges. Stand one side and one end together, with the corners arranged as in Figure 7. Make sure they are square with each other, place the hinges on the inside, mark the holes. Use one hinge on each corner for the small box, and two on each corner for the larger. Remove the pins from the hinge, and using screws, attach each. part of the hinge where it was marked. Put the corner together by assembling the hinge and putting the pin back. Do


Figure 6


Figure 7
the other corners. If you like, you can replace the original hinge pin with a piece of heavy wire bent into an "L" shape- coathanger wire works pretty well, and is much easier to insert, and remove than the original pin.
11. Add supports for the box tops and bottoms. On each piece, at the lower inside edge, attach a scrap piece of plywood to support the bottom. The leftover plywood works well, or cut some $1 \times 4$ into 1 x 2 .

On the parts of the, larger box, do the same for the top. If you are using $3 / 8^{\prime \prime}$ ply, you might add supports for the top of the small box also.
12. When the glue has completely dried - at least overnight sand, paint and finish as you like. Add rope handles to lift the top (or cut finger holes). Store and transport stacked flat, and when you get where you are going, put the pieces together, insert the pins into the hinges, drop in the bottom and the top, and you have a box.

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