

Procedure 3) - See Figure 3

Begin your project with the assembly of pieces A,C,L,M & K. First glue and nail pieces L to A using 1-1/4" finishing nails. Keep the ends of L flush with A, and locate the bottom of L, 2-1/2" up from the bottom of A as illustrated in Figure 3. Repeat this procedure for pieces K & M, but ensure that the ends of M are 1-1/2" inside the edges of K to allow for the overlap of the corners. Once all four sides are completed, they may be stood up and fastened together by gluing and nailing through K into A and through M into L. The casters M and rollers K into A are all even. Glue and nail pieces C to the top of pieces M & L. The four non-turning wheels are glued in place as referenced in Figure 3, one finishing nail will hold them until the glue sets.

Procedure 4) - See Figure 4

The next step is to add the horizontal brace piece B. This is fastened between pieces A, and in the center as illustrated in Figure 3. Keep the top surfaces even or you will encounter difficulty when attaching the top. Use glue and three 1-1/2" finishing nails per end.

Procedure 5) - See Figure 5

The next step is to attach the top, piece D to pieces A. We recommend the use of four steel corner braces as shown in Figure 5. It is easiest to attach the braces to the underside of piece D first, locate them about 2-3/4" in from the edges and 3/4" back from the ends. You should pre-drill each hole first with a 5/64" drill, then screw the braces in place with two 5/8" flathead screws each. Now the top can be placed on top of the assembly, use glue, and nail through piece D and into pieces A & B. You can now insert two more 5/8" screws through each bracket into pieces A, from the inside. Make sure to position the top, piece D, so as to allow 3/4" overhang on each side as illustrated in Figure 5.

Procedure 6) - See Figure 6

Now is the time to install the two hinged doors. First cut the piece K into two (2) equal parts and fasten it to the bottom edge of the side, piece L, using 3/4" flathead screws in each hole. The side can now be fastened to the top edge of piece K as illustrated in Figure 6 using 3/4" screws as well. It is best to only insert about two or three screws on each side of the hinge until you are satisfied that the position is correct. This procedure makes it easier to re-align the side if necessary.

TIP- If you end up with a bad hole you cannot insert a screw into, or need to change the position of the hinges, and find that one or more of the previous holes no longer lines up, then take a siver of wood, or round toothpicks, and tap them snugly into the hole until it becomes solid again. This will allow you to insert another screw adjacent to a previously bad hole.

Procedure 7) - See Figures 6 & 7

The construction of the hitch assembly is straight forward. Reference to Figure 6 & 7, glue and nail pieces E,F & G together, keeping them flush on the back side and the bottom. Apply glue to the 1/2" dowel and insert into the hole, keeping the bottom flush. Attach the completed assembly to the end(s) of the topbox, using glue and two 1-1/4" flathead screws. Position the hitch in the center of piece A as shown in Figure 6. You may elect to only fabricate and install two hitch assemblies, if you have no plans of ever building the cardboard toybox (Project #514), the second hitch assembly will need to be installed on the rear of the locomotive, if you have built one previously.

Procedure 8) - See Figures 3,6 & 9

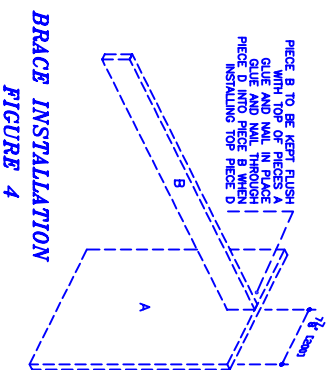
The next step is to attach the four casters as shown in Figure 3 and 9. Glue and nail the 3"x3" blocks to the bottom of piece C, on the inside corners of pieces L & M. Attach the casters with four 3/4" screws. Make sure the caster has clearance to swivel all the way around without touching the sides. Attach four magnetic door catches as per Figure 8, in each of the four inside corners using the supplied screws.

Procedure 9)

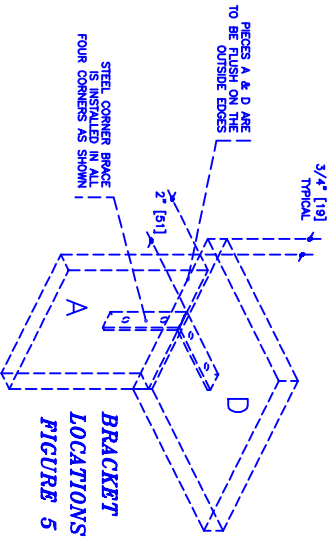
Finish your project off with paint or stain of your choice. Do not use leaded paint for any projects that will be around children.

On Materials:

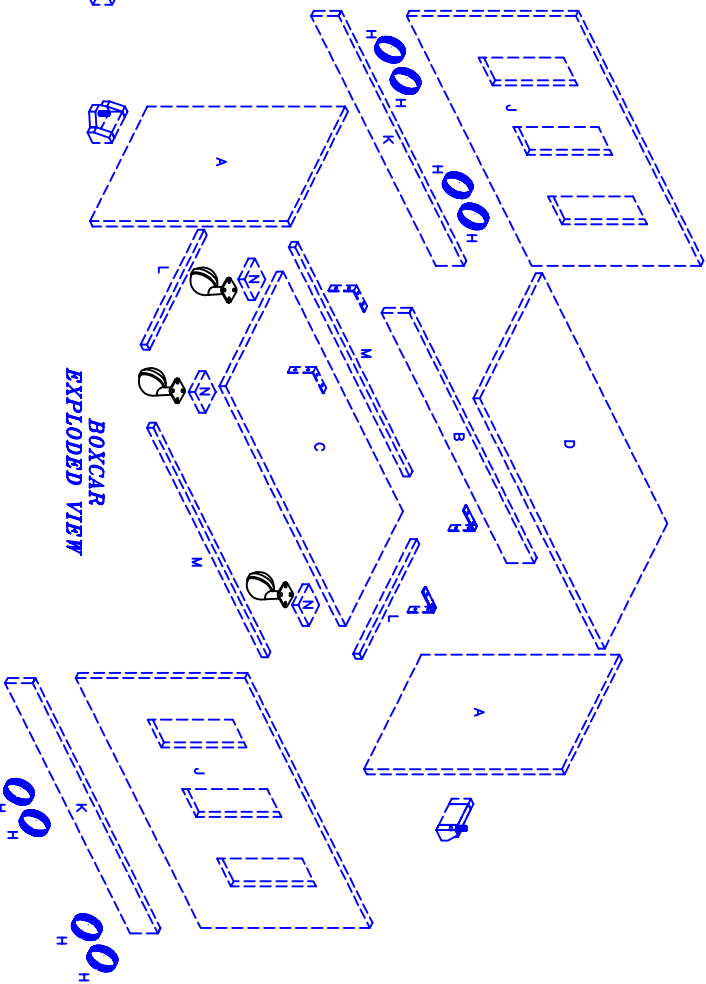
We recommend using birch plywood for this project, as the surfaces are smooth, and this allows you to use a varnish on the interior for a smooth finish.



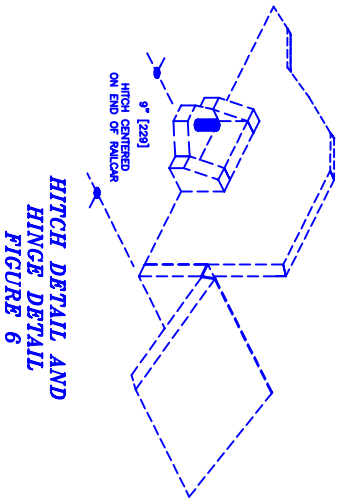
BRACE INSTALLATION
FIGURE 4



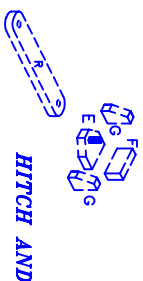
BRACKET LOCATIONS
FIGURE 5



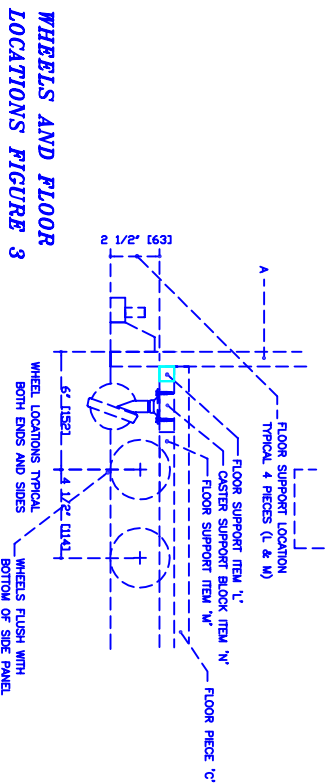
BOXCAR EXPLODED VIEW



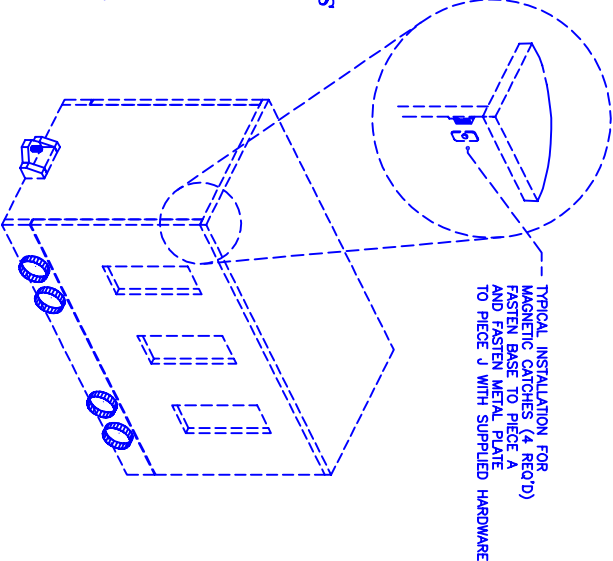
HITCH HINGE DETAIL
FIGURE 6



HITCH AND DRAWBAR
FIGURE 7



WHEELS AND FLOOR LOCATIONS
FIGURE 3



BOXCAR COMPLETED PROJECT
FIGURE 8