



This Craftsman kit will build a model of a Pacific Car and Foundry 50' 6" Interior Length, Plate B Box Car with 10 ft 6 in Youngstown Sliding Door. Built in 1971 with a capacity of 4949 Cu Ft.

Originally delivered for Milwaukee and numbered **52510-52834** Then to Canadian Pacific as CP 209900-209999

This kit contains the following:

1. 2 pcs .015 thick **Outer Sides** (with scribe detail).
2. 2 pcs .020 thick **Rib Section**
3. 2 pcs .005 thick **Hat Section**
4. 2 pcs .020 thick **Inner Sides** (with gluing holes)
5. 2 pcs Kadee 10 ft Youngstown Door
6. 2 pcs Modified Cannon and Company 3001 **Plate B End**

Modeler will need to provide suitable roof, ladders, under frame, trucks couplers and various sizes of Evergreen Styrene strips.

Before starting assembly, carefully remove the low tack tape that has been placed on one or two sides of the sheets to reduce the built up/melted edge caused by the laser. It is also necessary to first remove the **Hat Section & Rib** parts from the surrounding material by cutting the attach tabs with a sharp single edge razor blade. Extreme care should be taken with the **.005 Hat Section & .020 Rib** section when removing the tape as between the thin material and cross section it is possible to break part. Don't worry that can be glued back together. Once the tape is removed lay the parts on a flat surface and using the edge of the razor blade carefully scrape any remaining lip left from the laser. Use a sanding stick to remove the glazed outer side edges caused by the laser to permit better gluing. Exercise care with the .005 to prevent tearing or wrinkling.

All Four parts should be the same length.

1. Working on a flat surface (either a cutting matt or piece of glass) place the top edge **Outer Side** (part 1 with the scribe lines facing up) against a thick Steel Straight edge or a block of material (I use some machined pieces of aluminum). A piece of double side tape will keep both from sliding around.
2. Next align the **.005 Hat Section** against the same top surface and slide back and forth to align the left edge with the left edge of the side. Using a small paint brush apply a fast acting glue (I use MEK) to the edge of the hat section allowing capillary action to wick the glue into the joint, starting from the center of the car and working outward, keeping the top edges aligned.
3. Next align the **.020 Rib Section** against the same top surface and slide back and forth to align the **Ribs equally centered within the Hat Section** that represents the flange of the ribs. Using a small paint brush apply a fast acting glue (I use MEK) to the edge of the **Rib Section** allowing capillary action to wick the glue into the joint, starting from the center of the car and working outward, keeping the top edges aligned against the Straight Edge and flush to each other..

4. The Laser process can cause shrinkage or stretching in the thin cross section of the **Rib Section**. As you work outward gluing the **Ribs** to the **Outer Side** make sure each rib is centered within the Hat Sections. If necessary cut and trim the top chord to adjust the spacing. When done the outer **Ribs** should be perfectly aligned and flush with the outer edges of the **Outer Side**.
5. To prevent warping of the side it is suggested to place the assembly Rib Side Down and place some weights on the assembly and allow to dry overnight.
6. Once the side assembly has dried place the assembly **Rib Side** down and place a piece of .020x.020 styrene strip against the stop block, then slide the top edge of the assembly against the .020x.020 strip. Now place the **Inner Side** against the stop block, **align the left edge** and apply some glue along the bottom edge to tack the **Inner Side** in place. Remove the .020x.020 strip. If done correctly the **Inner Side** should **stick up above the top edge of the Side Assembly by .020**. This provides the overhang for the roof. Place a weight on the assembly and allow to dry.
7. Next cut four pieces of .250x.250 styrene approximately an inch long and clean up any edges. Place the **Side Assembly** face down with one of the side edges butted against the stop block. Position one of these .250x.250 pieces against the stop block approximately centered and glue in place. The edge of the side and block should be in perfect alignment. This edge will locate and square up the ends. Repeat at the other end, and the other side. A length of .250 x .250 can also be glued lengthwise on the middle to keep the side straight. Apply weights and allow to dry completely.
8. The top door track is made from a strip of .030 x .040 Evergreen 3.190 long. Install flush with the lower edge of the top chord.
9. Remove any protrusions from the back of the Kadee door with a flat file. Locate the door against the upper door track with the RIGHT edge aligned with the scribe mark. Install a strip of .020 x .030 Evergreen against the LEFT edge of the door. A small scrap of styrene can be installed under the door latch hardware.
10. Construct Lower Door Track as shown with the template below from .015 x .030 for the track and .030 x .030 for the supports. See supplemental sheet for better instructions.
11. Take one end and one side and **align the top notch of the end with the top edge of the side** and align the side of the end flush with the last side rib. The .020 of the inner side should align with the roof slope. Apply glue to the block in the corner. Set aside to dry.
12. Repeat with the other side and end. You should now have two "L" shaped side/end sets.
13. Now take the two "L"s and join them together similar to Step 6. Aligning the top of the side with the top notch in the end.
14. The **Moloco Diagonal panel Roof** should drop right in. This completes the basic box.
15. The recommended under frame is **Cannon AC-3104**, which is an Accurail #120 50 ft underframe
16. Detail the ends and underframe per photographs
17. Install **Tichy** Grab Irons on Sides. Use laser Dots for Location

Suggested Bill of Materials that the Modeler must supply

- **MOLOCO** RF 0801 Stanray Diagonal panel Roof (**Cannon MO-3108**)
- **Accurail #120** 50 ft Underframe (**Cannon AC-3104**)
- ASF 70 Ton Barber S-2 Truck with 33 inch wheels
- **Kadee** 158 Whisker Spring Couplers
- **Plano** Cut bar P/N 12001
- **Plano** P/N 128 Cross over Platform
- End Ladders to suit or **Cannon AT-3102**
- **Grandt Line** or **Detail Associates** or **Tichy** or **MOLOCO** brake Sets
- **Detail Associates** Brass Wire
- **Detail Associates** Stirrup Steps # 6416
- **Tichy** #3062 Grab Irons
- **Evergreen Styrene**
 - .020x.020
 - .250 x.250 for corner support
 - .015 x .030 lower door track
 - .030x.030 lower door track supports
 - .020 x.030
 - .030 x .040 for upper door track
 - Misc other sizes as required
- **Dan Kohlberg Decals** <http://home.mindspring.com/~paducah>
MIL-01 Milwaukee Road 50ft PCF Brown Box Car

Generic Instructions for Laser Box Cars

Upper Door Track – Sliding Door

Use .030 x .030 Styrene for the door track, applied flush with the top of the door. For a Single door application, it should extend from the Left edge of the door to the scribe mark provided on the side top chord. For Double Sliding Doors the Track length is determined by the scribe marks.

Upper Door Track –Plug Door

Apply a piece of .020 x .020 Styrene strip flush with the top of the side chord, with the length determined by the scribe marks. Next place a piece of .012 brass wire below the .020 x .020 door track. Using the brass wire as a spacer, now glue a .010 x .010 styrene strip below the wire. Remove the wire. The wire spacer provides the necessary groove for the door bar hangers that can be fabricated from scraps of .010 styrene. Consult photos.

Lower Door Track

Take the template provided and tape it to a sheet of glass or other suitable work surface. Place four strips of .015 x .040 styrene strips along the template and apply tape at each end to locate and hold in position. Cut enough lengths of .030 x .030 styrene about an inch long for each support. Place the .030 x .030 strips across the top of the .015 x .040 aligned with the drawing. Apply MEK or similar solvent glue to the joints. Once the glue has dried trim the tracks to overall length and remove from the template. Remember you are building the tracks upside down, so now invert the assembly, keeping the right and left orientation. Starting with the new top track (once inverted), using new single edge razor blade, using the track as a guide trim the .030 x .030 supports that stick up beyond the top surface of the top track flush with the track. Now move down to the second track from the top and repeat the trimming of the supports flush with that top of the track surface. Repeat for the other two tracks. You should have four tracks that have long supports sticking out below the track and flush on the top. Now take a strip of the .030 x .030 material longer than the track assembly to use as a spacer along the lower edge of the door track. With the spacer in place trim the material that sticks out below the spacer, flush with the spacer. You should have four complete door tracks. Use the best two.

Door Bars – V Bar Plug Doors

Apply .020 diameter styrene rod to the center groove that represents the attach hardware. Glue in place. Remove the "V" bars from the fret locate per photos such that they attach to the door rods just above the bracket. Apply two of the Lift Rings from Detail Associates 1108 GE Lift Rings and Hinges at the connection between the rod and V Bar to simulate the hinge between the bar and door rod. Remove the spinner from the fret and apply.

Camel Door Rollers

The door detail laser cut details sheet has parts to represent the Camel Door Rollers for Plug Doors. Remove the protective tape from the sheet and all the details. Remove any burrs created by the laser with a sanding stick. Remove the Outer roller from the fret. Carefully apply the outer roller to the inner roller. Glue in place. NOTE the Outer roller hangs over the Inner Roller at the lower surface. Allow the glue to dry. Remove the assembly from the fret. Carefully position the roller assembly on the door track such that the outer piece hangs over the track and the lever connects to the door bar. See photos.

Door Stops

Construct a channel from three pieces of .010 x .030 x 1.5 long strip on a sheet of glass. Two pieces are *placed vertically* and glued to the side of the third piece, making a channel that is .050 wide x .030 high. Allow to dry. Remove from the glass and cut the channel to .080 length. Glue in place on the car side. Attach a piece of .020 x .030 x .050 as the bumper to the end of the channel closest to the door. After parts have dried, use sprue nippers to bevel the two vertical legs.

Tape Removal and Laser Clean Up

By nature the laser cuts the styrene material by melting it. This process results with some buildup of material on both the top and bottom surfaces of the material adjacent to the cut. We apply a layer of low tack masking tape to the front side to cut down on the melting of the "good side". The styrene rests on an aluminum honeycomb in the laser. As the laser cuts through the material and crosses the honeycomb it produces a small spark that adds to the material buildup on the back side that needs to be cleaned up.

Before attempting to assemble the kits it is necessary to remove the tape and any buildup. Start with removing the tape. For solid pieces such as the solid side and the interior support pieces it is not critical how the tape is removed. Be sure to remove all the tape, since some areas have scribed lines where the laser cuts *the tape* and slightly melts a groove in the surface without cutting through the material.

For complex pieces such as the **Ribs** and **.005 Hat Section** removing the tape is a little more tricky so as to not damage the parts. All the vertical ribs are attached to the surrounding material by small tabs at the bottom.

For the **Ribs**, starting at the lower right corner of the support material start peeling back the tape on itself. If done easily the tape should peel back from the rib from the bottom tab towards the top. Work slowly from right to left and bottom to top peeling each rib in succession until all the tape is removed.

The **.005 Hat Section** is similar but more delicate and can be prone to tearing of the top chord. I find it is easier to lay the material on a work surface and use some sort of tool (or finger) to hold the material down at the point of tape attachment pulling the tape back on itself, moving the tool as you go.

Once all the tape is removed it will be necessary to remove any buildup adjacent to the cut edge, This can be done with either a sanding stick or scraping the surface with the edge of a single edge razor blade.

Be especially careful with the **.005 Hat Section** sanding and or scraping from top down only to keep from tearing the tab and buckling the material. Once all the raised material is removed from BOTH sides carefully cut the tabs holding the part from the support material. Dress any excess material at the top chord and bottom of the ribs.

The cut edges can use some dressing to remove the melted surface on the thicker pieces. This can be done with sanding sticks, knife blade edge, razor blade edge and for narrow cross sections like the **Ribs**, both edges can be cleaned up at the same time with a pair of sprue nippers, lightly dragged along the surface to remove the glossy melted surface.

Now you can assemble.

Tools

- Paint as required (True-Color TCP-213)
- Thin liquid Glue (Tenex, MEK, Microweld, Ambroid Proweld) and Small Paint Brush
- Pin Vise and Drills
- Cutting matt or Piece of Glass
- Single Edge Razor Blades
- Stop Block or thick steel straight edge
- Small Files
- Sanding block or sanding sticks
- OPTIVISOR
- ACC
- Northwest Shortline Chopper
- Hobby knife

Door Track (2 required)

