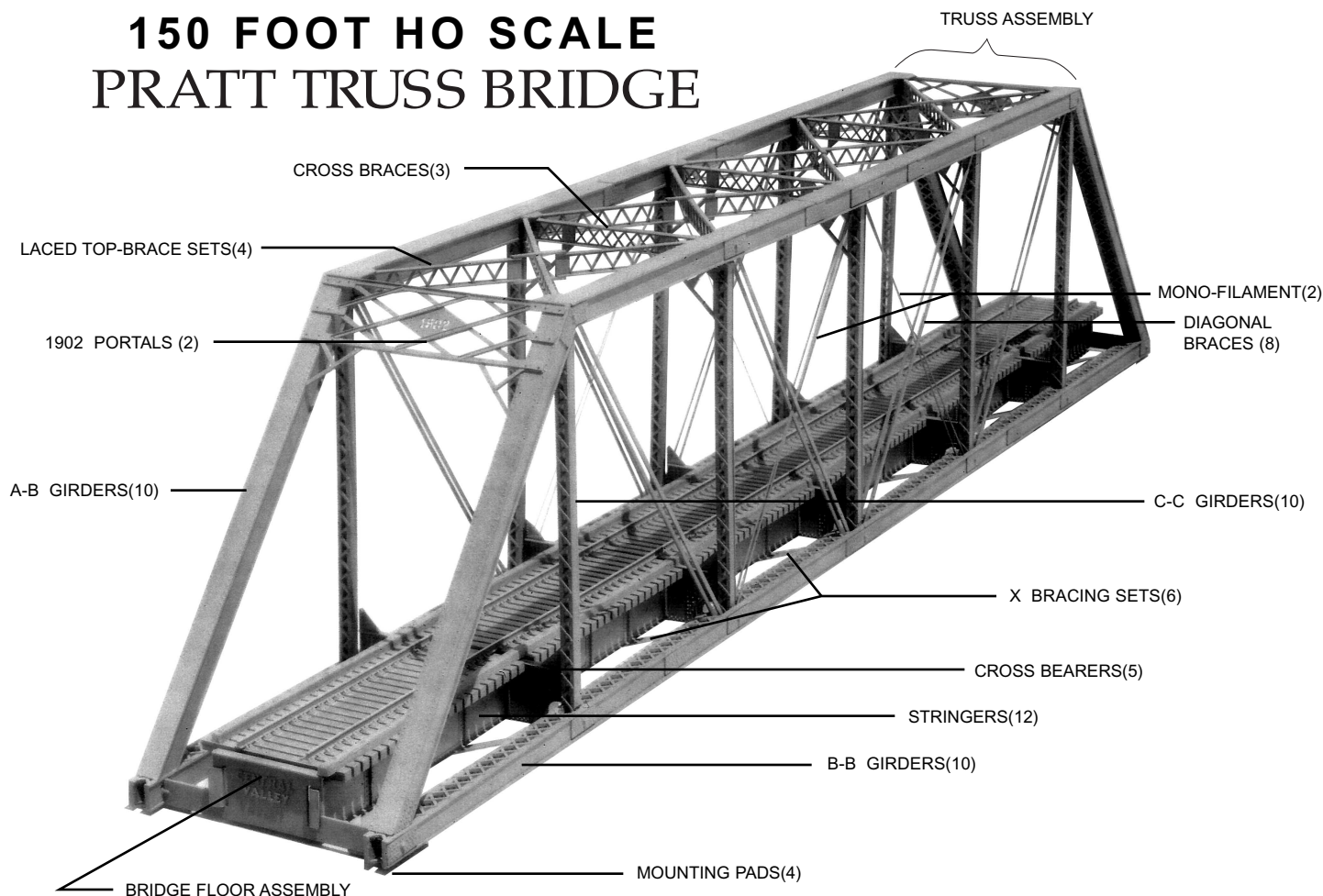


# 150 FOOT HO SCALE PRATT TRUSS BRIDGE



**CONGRATULATIONS!** You have just acquired the finest steel structure kit ever produced for HO Scale. When completed, your model will be comparable to the best of contest models - and you don't even have to be a riveter!

As with all plastic kits, "flash" will sometimes appear on part edges. The "flash" should be cut or scraped from parts before removing from sprues if possible.

Delicate parts should be cut, not broken, from sprues.

A liquid styrene modeler's cement is recommended. Follow the cement makers instructions. The Truss Bridge Kit is molded from a typical grade of impact styrene common to all popular hobby kits on the market. The components of this kit can be combined with any other kit components or modeler's styrene stock for custom or scratch building projects.

When the model is completed you will have some parts left over. (We suggest saving these for finishing projects or repair work.)

The tools and materials listed are ones you probably own or are already familiar with. This kit was designed for the simplest con-

struction techniques, however, it is not recommended for assembly by or use by young children. Adult modeling tools and skills are required for assembly and the finished model is not able to withstand the handling or usage that children would give it.

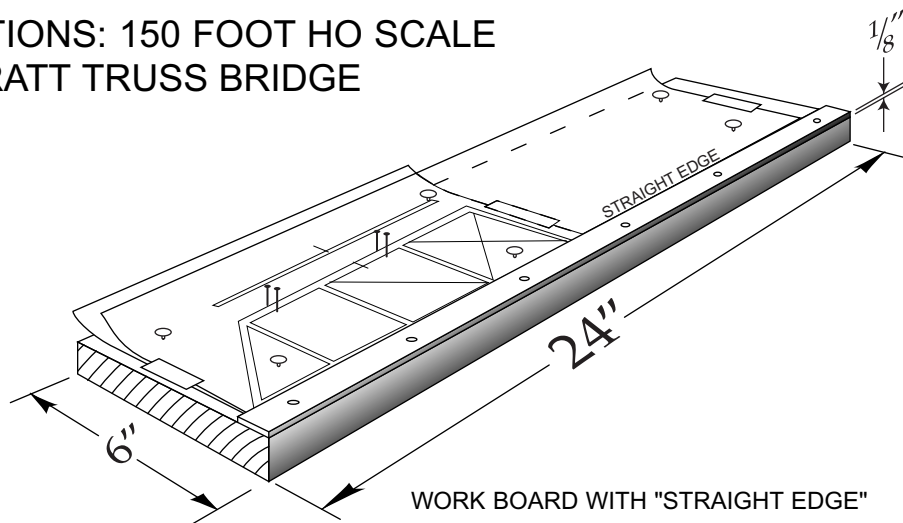
Although Central Valley assumes no responsibility, implied or otherwise, for any injury from or damages from the use of or construction of the model, nor any guarantee of performance of the model in its finished, or unfinished state in any application, we do guarantee to the extent of replacement of, any defective part or component.

Furthermore, if you should have a problem or "goof" during the assembly, write to us for the parts you need and we will replace them at a nominal cost, plus postage and handling. We want you to complete the model.

## TOOLS AND MATERIALS - RECOMMENDED

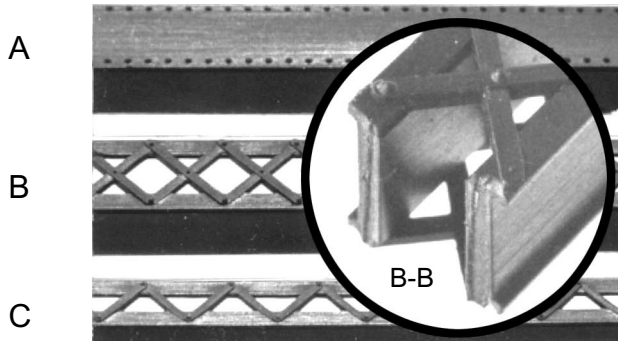
1. Vvork board with straight edge (see Fig. 1 )
2. Modelers knife
3. Modeler's razor type saw
4. Small f i les
5. # 120 sand paper
6. Styrene cement and brush
7. 1/8" drift punch
8. 1/8" drill with pin-vise or drill motor
9. Tweezers
10. Scissors
11. Fine steel wool
12. Model maker's "C" clamps
13. Small 1 "x 2" or 2"x 2" blocks
14. Model paints and painting equipment
15. HO rail or track

# INSTRUCTIONS: 150 FOOT HO SCALE PRATT TRUSS BRIDGE



The "work board" with straight edge is strongly recommended. It can be rotated to allow more comfortable sawing positions when cutting angles and lengths. The Truss Assembly Diagram should be trimmed at bottom line of truss side view and secured to the left side of work board with the bottom edge butted to the straight edge. An over-layer of "waxed" paper prevents inadvertant adhesion of assemblies to paper. Straight pins' brads, and small weights can be used to assist in alignment and holding parts on the board.

## BOX GIRDER ASSEMBLY



THREE STYLES OF BOX GIRDER COMPONENTS

These parts make the main truss assemblies There are three (3) styles of box girder parts.

**Box girder assemblies** should be assonnbled so that a small overlapping flange occurs along both sides.

Cement all type "A" 9 girder members to type "B" girder members forming 10 box girders with the type "A" riveted surtaces opposite the type "B" laced surfaces (A-B Box Girders).

Cement all remaining type "B" girder members to each other forming 10 box girders with the lacing on opposite sides (B-B Box Girders).

Cement all type "C" girder members to each other forming 10 box girders with the lacing on opposite sides (C-C Box Girders).

**Set all box girders aside to dry.**

**When dry, polish sides with fine steel wool to eliminate any defects caused from cementing.**

## BRIDGE FLOOR ASSEMBLY

This kit is designed to use one of the finer scale rail sizes (code 70, 81, or 83). The fine detail and overall realism beckons for the use of one of the scale sizes, however, if code 100 is to be used, the following suggestions are offered:

Omit the tie sections supplied and use snap track or ready track ties and rails over the span, or -

File away tie plates and spikes and secure rail with an ACC type cement (Go to ste p 3).

If using the finer scale rail sizes, proceed as to follows:

### Step 1

Cut two (2) pieces of code 70, 81 or 83 rail to any desired length longer than the bridge (21'3/4"). If the bridge is not going to be installed immediately, 2'2 or 23" will do.

### Step 2



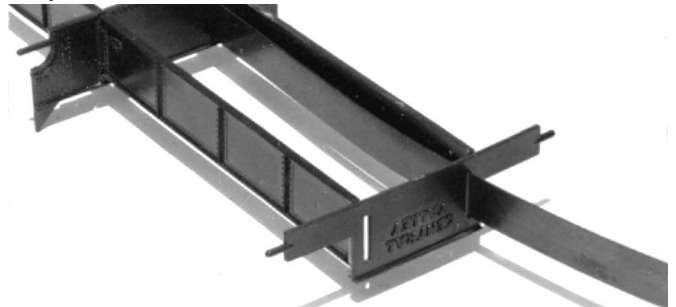
CLOSE UP OF THE-SPIKING DETAIL

working on a solid surface. secure rail to tie sections by locating rail between molded spikes and using finger pressure, gently mashing spikes over rail foot with a flat ended punch. Locate and secure all six sections with just a few spikes on each section, adjust for straightness and proceed mashing spikes on both sides of rail (Spaces between the sections will be filed by Cross Members on Bndge Floor Assembly (Step 6). Set assembly aside!

### Step 3

Straighten steel strips as much as possible with finger pressure (They need only be reasonably straight).

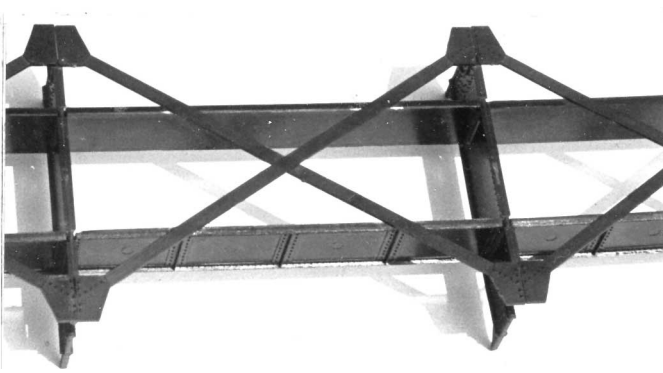
### Step 4



CROSS BEARER AND STELL STRIP

Thread five(5) cross bearers on steel strips. Thread two (2) end "Central Valley" cross bearers with letters facing out.

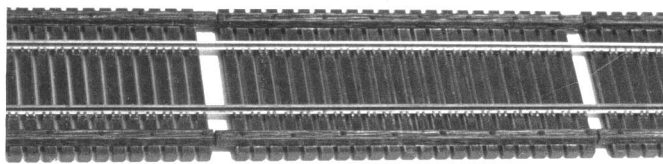
### Step 5



#### CROSS BEARERS, "X" BRACES AND STRINGERS

Cement stringer members between cross bearers. Stringers space cross bearers evenly. Use straight edge on work board to assist in alignment and try to keep cross bearers square.

### Step 6



#### RAIL AND TIE ASSEMBLY SHOWING GAPS

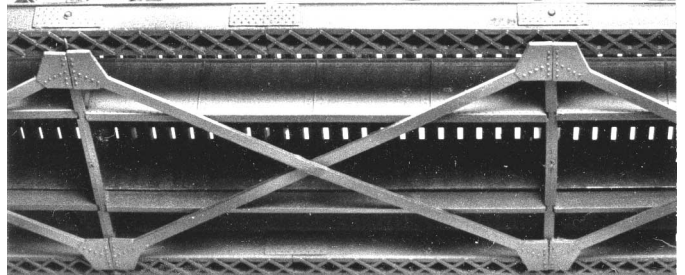
Cement the tie and rail assembly to stringers. Cross bearers will fill gaps between tie sections. Use straight edge on work board to

insure straightness and allow assembly to dry under weights. If snap track or ready track code 100 is used, removal of ties at cross bearers will be necessary.

### Step 7

Trim steel strip ends if necessary. They can probably be slid out if normal styrene cement has been used. Trimming can be accomplished by scoring steel with a triangular file and bending back and forth with pliers. Dress sharp ends with file.

### Step 8



#### BOTTOM VIEW SHOWING "X" BRACING IN PLACE

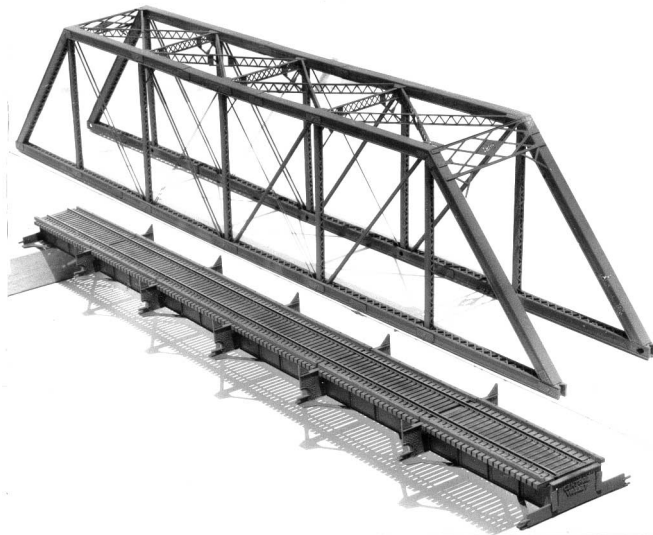
Cement "X" bracing to underside of bridge floor. Trim end corner plates for mounting shoe clearance. If bridge is to be put into immediate service (not handled separately), it is recommended that the ends of the mounting pins on the cross bearers be trimmed flush with the edges of the cross bearers. (This will allow the truss assembly to be removed without "springing" truss assembly outwardly - just lifted off)

### Step 9

The bridge floor assembly can now be mounted to the layout and used.

*The forth-coming "Truss" assembly is **not** intended to be permanently attached to the bridge floor, but only rests on the under side "X" member gussets and abutments allowing for easy track cleaning and maintenance. If the bridge floor assembly is mounted before truss assembly is completed, please note that the mounting shoes on the truss ends should be considered and allowed for by appropriate shimming under bridge floor at abutments.*

## TRUSS ASSEMBLY



#### FLOOR ASSEMBLY AND TRUSS ASSEMBLY

Step one (1) through four (4) are the most critical of the truss assembly. The most precise and best matching of these four assemblies will assure the best finished model. Take your time here and the rest will be easy!

Cutting of box girders should be done with a modeler's "razor" saw. Use a "back" stroke for the first marking or guiding stroke. Final adjustments of angles and lengths are best accomplished with sand paper on a flat work surface. (You may feel that a full length side view of truss diagram would be more helpful, however, due to the inherent "shrinkage" variations of paper and plastic components, accumulative errors tend to be worsened by such a long diagram, thus making assembly confusing and inaccurate.

Concentrate on accuracy, matching, and symmetry during the truss assembly.

### Step 1 Angled "Face" Box Girder

Using Truss Assembly Diagram as a template, lay an A-B box girder on diagram with solid side facing outward. Score and cut angles, using "razor" saw, on each end of box girder as indicated on diagram to form Angled "Face" Box Girder. Make four (4) identical parts.

### Step 2 Top Corner Box Girder

Lay an A-B box girder on Truss Assembly Diagram with solid side facing outward. (Score and cut angle on one (1) end of box girder as indicated on diagram. Make four (4) identical parts. Check angle on these parts to Angled "Face" Box Girder parts on diagram. Make angle adjustments on "TOP" parts only- not on Angled "Face" Box Girder parts.

### Step 3

Remove lacing in areas where indicated on Top Box Girder Diagram for vertical C-C box girder, diagonal brace, and tie rod clearances.

### Step 4 Box Girder Corner Angle

Using Truss Assembly Diagram as a guide, cement Angled "Face" Box Girder to Top Corner Box Girder to form Box Girder Corner Angle Assembly. Make four (4) identical assemblies. Set aside to dry.



### Step 5

Assemble Truss Bottom using B-B box girders. This is best done by making four (4) sub-assemblies over Bottom Box Girder Diagram. Removal of lacing and location of splices should be adhered to. Working with one (1) box girder at a time, align lacing to lacing on diagram. Remove lacing and cut box girder on splice line(s) as indicated on diagram. Cement these two (2) box girders together at splice line using straight edge on work board to insure straightness. Make four (4) identical assemblies. Using straight edge on work board, cement "center" ends of two (2) of these sub-assemblies together, forming the full length of Truss Bottom. Repeat with remaining two (2) sub-assemblies for opposite side of bridge. Gusset plates **without** "pin" hex heads are used at splices between verticals on both sides of box girders. The long splice Gusset plates **with** "pin" hex heads are used at the center splices on the outside of box girders only

### Step 6

Cut vertical C-C box girders to a length allowing about 1/8" each end to enter the large box girders. File away flanges to allow entry into the top and bottom box girder assemblies. Fit these parts together on Truss Assembly Diagram. When everything lines up and fits, cement in place. Using Top Box Girder Diagram as guide for lacing removal and cutting lines as before, cut, fit, and splice last top box girder and center vertical C-C box girder to position.

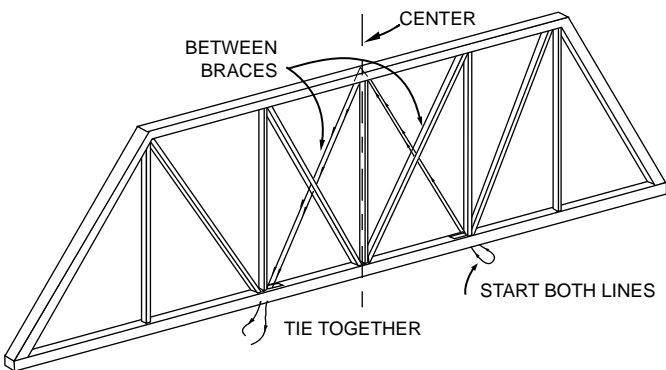
### Step 7

If mounting pins on floor cross bearers have been retained, drill 1/8" holes on inside of truss bottom box girders to fit over pins

### Step 8

Cement the eight (8) pairs of diagonal braces together at male-female spacer-bosses. Keep them as parallel as possible, "Flex" these assemblies into the truss assemblies but **Do Not** cement. If they are allowed to "float" they will not buckle or warp. They will also be much less likely to be broken and, in emergencies, can be removed for maintenance or access problems.

### Step 9



MONO-FILAMENT THREADING DIAGRAM

Thread and tie mono-filament tie rods per diagram. Please note the following:

1. Loop and tying should be around lace crossings directly beneath the C-C verticals to insure clearance for the diagonal braces
2. Use very light tension on monofilament when tying knot. Even slight excessive tensioning will distort the truss.
3. After tying knot, secure it by heating screw driver blade and "mashing" This procedure will also relieve some residual tension in the monofilament

### Step 10

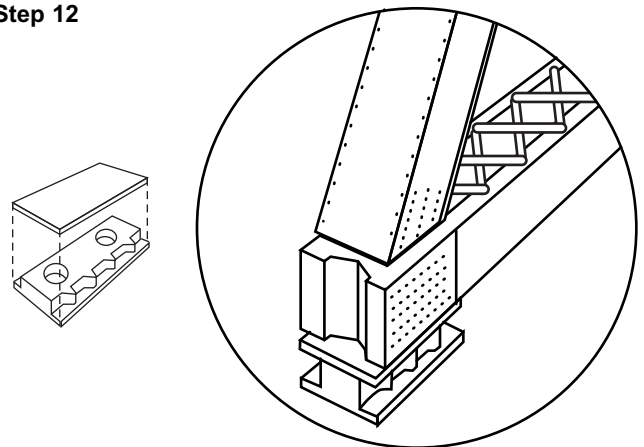
Using the mounting plates on the "1902" portal parts as a guide. remove the rivets on the Angled "Face" Box Girders that will interfere with the portal's final placement. Using blocks and clamps to hold truss sides in the vertical position, cement the four (4) top cross braces in place to establish the spacing between trusses. (Refer to photo) Cement the "1902" portals into the locations previously prepared

### Step 11

Slip laced diagonal top braces together (four (4) sets), locate and cement at ends between top cross braces and "1902" portals, and between top cross braces. Cement remaining gusset plates at junctions and on main girders as indicated by photo or diagram.

Cement top and bottom parts of mounting pads four (4) sets together and cement assemblies to bottoms of four (4) lower main girder corners. These should rest on the abutments when the truss assembly is placed over the floor assembly.

### Step 12



## FINISHING UP!

The prototype bridge today is a dull, weathered, black beast with considerable rust staining in evidence

The choice of color and aging is up to you, but it is recommended that the model be painted with spraying equipment or at least spray cans. Brushing techniques for rust spots and weathering would be used.

The final result of your effort should stand out as a new "high" point in accessory structures. Until this kit was produced, only a tiny handful of "masterpiece" steel bridge models existed that would compare to the model you have just completed. It should be a showpiece on any layout - now think how easily you can build the second span!