



HO Structure Kit STEEL RAILROAD BRIDGE TOWER 933-4554

Thanks for purchasing this Cornerstone® kit. Please read these instructions and study the drawings before starting construction. All parts are styrene, so use compatible glue and paint to finish your model. As part of the Cornerstone Engineered Bridge System, walthers.com/bridgesystem, your new model can easily be used with other Cornerstone bridges and accessories to create a custom structure for your railroad.

Deep valleys, broad rivers, gorges and similar obstacles proved to be among the biggest challenges to early railroad builders. Where construction of a standard bridge or trestle was difficult, engineers would build a viaduct. These were originally complex affairs made of cut stone with multiple arches supporting a deck. Later poured concrete was used, but as the steel industry matured in the early 20th century, beams, columns and other heavy-duty construction components became readily available. Durable and cheaper steel quickly became a popular choice for trestle bents (which can be modeled with kit #933-4555 sold separately). Where a taller support structure was required, bents were combined in pairs with additional bracing for strength and stability to build viaduct towers. These might be built at different heights ("stories") to fit the terrain, but were sometimes used with bents at the lower ends of the span, which was typically a series of all-steel plate girder deck bridges. Today, many of these sturdy steel viaducts are still in daily railroad service. For more ideas and information on the Cornerstone Engineered Bridge System please visit walthers.com/bridgesystem. For additional products to complete your scene, see your participating hobby dealer, check out the latest Walthers Model Railroad Reference Book or visit us online at walthers.com.

BEFORE STARTING CONSTRUCTION...

This kit is designed especially for use with Cornerstone Single Track Deck Girder Bridges, available in multiple lengths from 30 to 90 scale feet (kits #933-4505 to 4509, each sold separately). We suggest test fitting each tower as a subassembly directly on your layout to determine final placement. Be sure each is level and correctly aligned before attaching the bridges and making the final installation. With some careful kitbashing, towers of different heights can be built for uneven terrain. The lower edge of the gusset plates on the A-Frames and Horizontal Braces can be used as a cutting guide. Cut each leg in the same spot, and carefully trim away the lower half of the plate.

Bent Assemblies

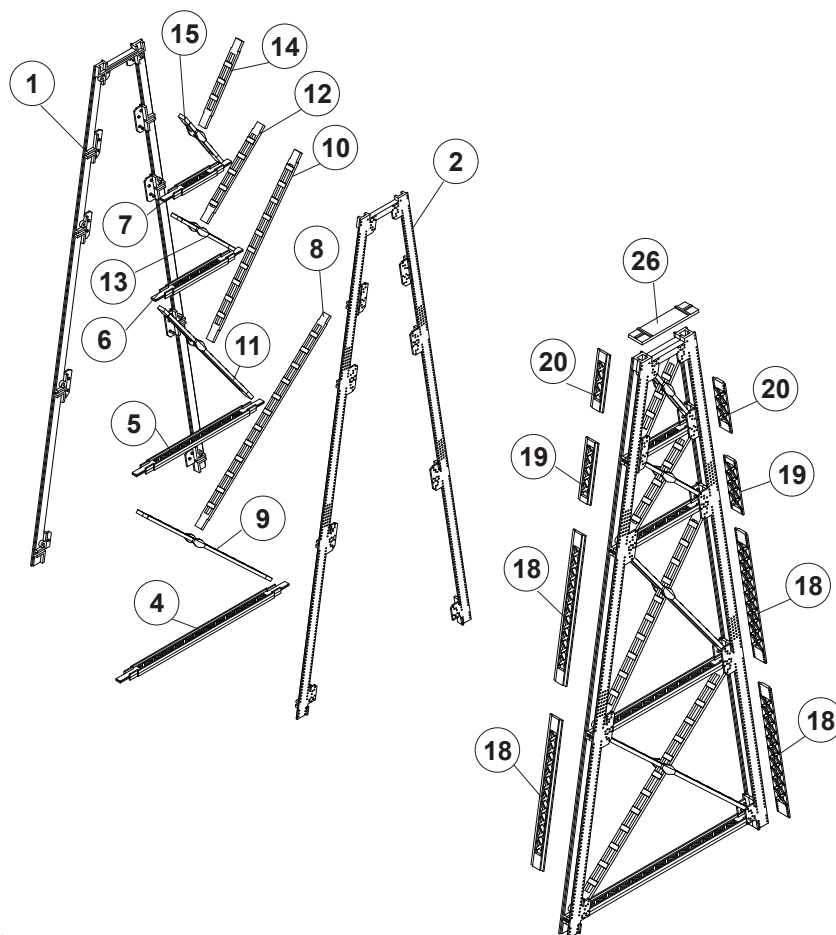
Make two as follows:

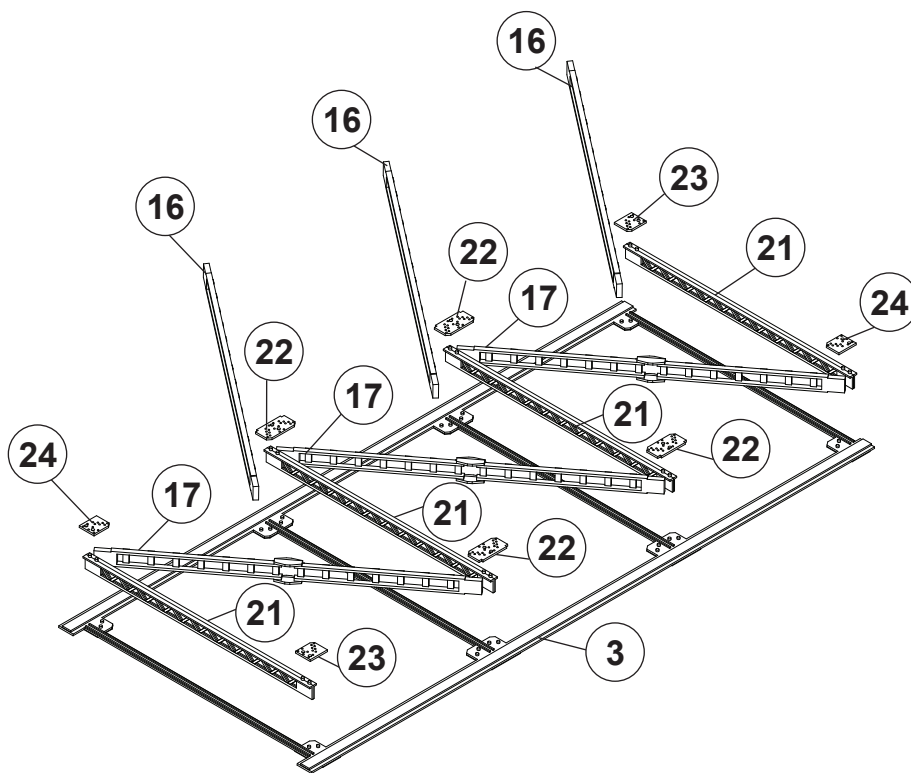
1) Note the raised ridges on the inside edges of A-Frames (1) to help align cross braces. Glue both edges of Base (4), Large (5), Medium (6) and Top (7) Horizontal Braces to the slots between ridges as shown.

2) PLEASE NOTE: Assemble all four Diagonal Braces as shown (#8 & 9, 10 & 11, 12 & 13, and 14 & 15) by inserting - do not glue - parts in an X-shape. Align the upper and lower ends of the Diagonal Braces between the raised pegs on the backs of each gusset plate. Adjust as needed so parts fit square and snug, and apply a little glue where the Diagonal Braces meet the plates and Horizontal Cross Braces.

3) Note the small pins and sockets on the inside to help align the front and rear half of each A-Frame (1). Make sure all cross braces are aligned and glue second A-Frame in place.

4) With the rivet details facing inwards, use the inset areas on the back to align Lacing, (4x #18 and 2x each #19 & 20) and glue to left and right inside edge of A-Frame assembly.





Horizontal Braces Make two as follows:

1) Note the inset areas of the cross braces molded on each Side Frame (3). Glue the bottom of each T-shaped Cross Brace (4x 21) to these openings as shown.

2) PLEASE NOTE: Assemble three Diagonal Braces as shown by inserting - do not glue - parts 16 and 17 in an X-shape. Align the upper and lower ends of each Diagonal Brace between the raised pegs on the backs of each gusset plate. Adjust as needed so parts fit square and snug, and apply a little glue where the Diagonal Braces meet the plates and Cross Braces.

3) Glue Gusset Plates (4x 22, 2x 23, 2x 24) to cross and diagonal braces as shown.

4) Using the inset areas on the back to align parts, Glue the completed Horizontal Brace to the open edges of the A-Frame assembly as shown.

5) Both Small (28) and Large (29) Concrete Footings are provided that can be used-as is, or combined to fit uneven terrain. Glue Bottom Bearing Plates (2x 27) to lower ends of tower assemblies; use the square inset area on the bottom to align with the raised square on the footings and glue in place.

To use your new model with Cornerstone Bridges (sold separately), please visit www.walthers.com/bridgesystem for information and illustrations of specific bridge combinations.

