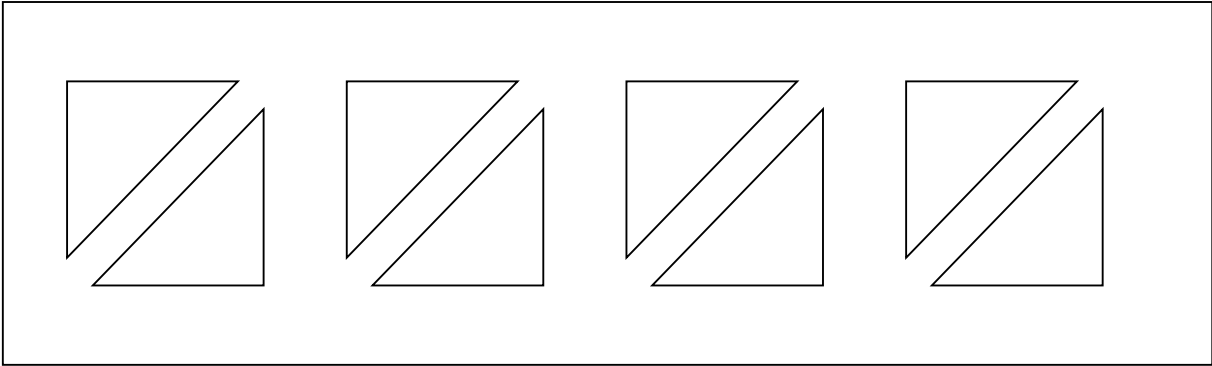


Through-Truss Bridge

truss-bridge / 1.0.0 / Letter / Template page 1

W1 | cut 1
160.00 x 48.00 mm



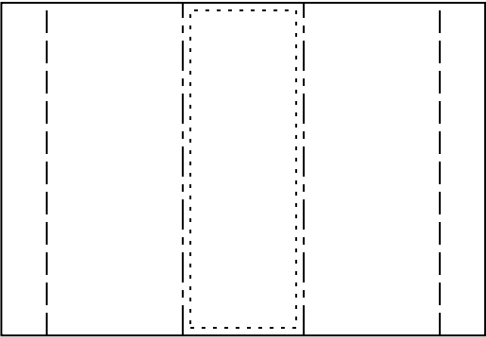
T2 | cut 1
8.00 x 56.00 mm



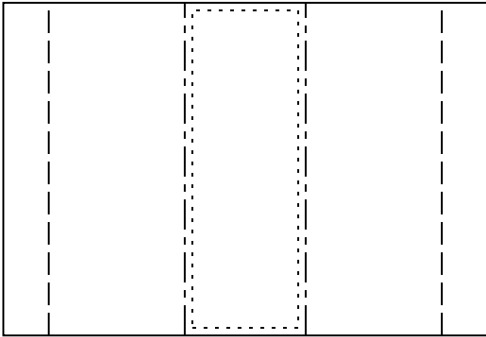
T3 | cut 1
8.00 x 56.00 mm



S1 | cut 1
64.00 x 44.00 mm



S2 | cut 1
64.00 x 44.00 mm



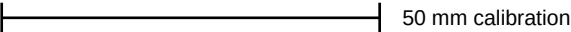
D1 | cut 1
160.00 x 56.00 mm



T1 | cut 1
8.00 x 56.00 mm



Solid: cut | Dashed: valley | Dash-dot: mountain | Dotted: glue

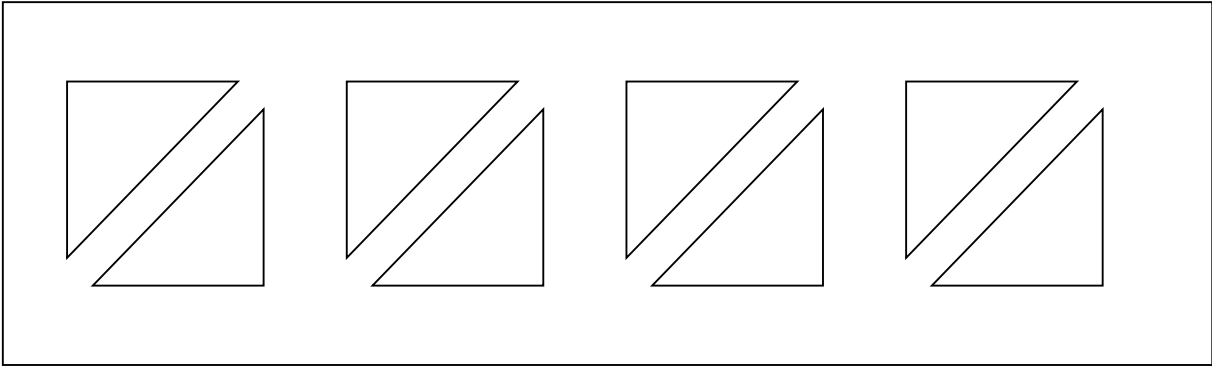


Print at 100% / Actual size. Do not fit to page. Original paper craft template.

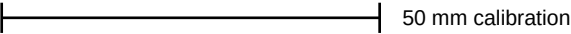
Through-Truss Bridge

truss-bridge / 1.0.0 / Letter / Template page 2

W2 | cut 1
160.00 x 48.00 mm



Solid: cut | Dashed: valley | Dash-dot: mountain | Dotted: glue



Print at 100% / Actual size. Do not fit to page. Original paper craft template.

Through-Truss Bridge

truss-bridge / 1.0.0 / Letter / Assembly instructions

Finished size: 160 x 44 x 66 mm nominal; deck height 18 mm

Materials: 220-250 gsm cardstock; PVA craft glue; Craft knife and cutting mat; Scissors; Metal ruler, blunt scoring tool and small square

Original eight-piece construction: two walls, one tabbed deck, three tabbed top ties and two integral folded foot supports. Decorative only; no load rating. Do not put weights on the bridge.

Each wall has eight triangular waste openings, sixteen in total. Four 31 x 32 mm cells are split diagonally and each triangle inset 2.5 mm. Retained diagonal beams are 5 mm wide perpendicular to their edges; intermediate posts are 11 mm wide and top/bottom chords 10.5 mm deep. Minimum end margin is 8.5 mm.

The 160 x 44 mm deck is straight, not arched. Side walls rise 48 mm above it. Three 8 mm-wide overhead ties span the full 44 mm wall spacing at height 66 mm; their supplied 6 mm end tabs fold down onto solid top chords.

Every fold is 90 degrees. All shaped faces, including glue tabs and foot pads, preserve exact flat lengths. The 64 x 44 mm support blanks become 16 mm-long top bearings on 18 mm legs, with 6 mm outward feet.

Zero paper and adhesive thickness is idealized. Glue-contact faces intentionally coincide. Dry-fit real card with walls immediately outside the 44 mm deck width; actual exterior width gains two paper thicknesses. No stretching or unlisted joining pieces are required.

Physical printing, cutting and assembly remain pending; springback, stability and glue strength are unverified. Generation does not constitute screen or physical acceptance.

Part inventory (cut each instance once):

W1: Pierced truss wall 1

W2: Pierced truss wall 2

D1: Deck with upward wall tabs

T1: Overhead tie 1

T2: Overhead tie 2

T3: Overhead tie 3

S1: Folded trestle foot 1

S2: Folded trestle foot 2

1. Cut the triangular lattice [W1, W2]: Print at 100% actual size and measure the 50 mm ruler. Cut the eight enclosed triangles out of each W1/W2 while the surrounding sheet still supports them, then cut both 160 x 48 mm outer rectangles. Retain every 5 mm diagonal beam; do not cut across the top or bottom chords. Keep both walls flat.

2. Fold the two trestle feet [S1, S2]: Cut S1/S2 as 64 x 44 mm blanks. Score across the 44 mm width at distances 6, 24, 40 and 58 mm from the same short edge. Fold 90 degrees using valley, mountain, mountain, valley marks. Viewed along the 44 mm width, make an inverted U with a 16 mm horizontal top, two vertical 18 mm legs and two 6 mm feet pointing outward on the table. The marked central glue area faces upward.

3. Fold and mount the deck [D1, S1, S2]: Cut D1, score the two long lines 6 mm from its long outer edges, and valley-fold both 6 mm tabs upward 90 degrees. Keep the central 160 x 44 mm road flat. Measure x from its left short end. Glue S1 top bearing under x=8-24 mm and S2 under x=136-152 mm, both flush across the full 44 mm width. Keep their feet on a level table and let dry: the road must be 18 mm above the table.

4. Attach parallel truss walls [W1, W2, D1]: Glue outward faces of D1 upward tabs to the inside lower 6 mm of W1 and W2. Align each wall bottom with the road surface at height 18 mm and both wall ends with the road ends. Walls stand outside the deck edges, 44 mm

Through-Truss Bridge

truss-bridge / 1.0.0 / Letter / Assembly instructions continued

apart nominally, with all openings above the road. Hold both upright with a square; let the deck joints dry before adding overhead ties.

5. Form the overhead ties [T1, T2, T3]: Cut T1-T3 as 8 x 56 mm strips. Score the two transverse lines 6 mm from the ends. Mountain-fold both end tabs downward 90 degrees, leaving a horizontal 8 x 44 mm span. Dry-fit each across the wall tops; its tabs must rest on the inside wall faces, not extend through the triangular holes.

6. Bond the top spacing ties [T1, T2, T3, W1, W2]: Measure from the same left wall end. Place T1 over x=8-16 mm, T2 over x=76-84 mm and T3 over x=144-152 mm. All horizontal spans sit at height 66 mm. Glue their downward 6 mm tabs to the inside top chords at heights 60-66 mm. Press gently while keeping the wall spacing at 44 mm, and let all six tab joints dry fully.

7. Measure the decorative assembly [W1, W2, D1, T1, T2, T3, S1, S2]: After drying, measure overall length 160 mm, nominal wall spacing 44 mm, road height 18 mm and overall height 66 mm. Support legs stand at x=8,24,136,152 mm; feet occupy x=2-8,24-30,130-136,152-158 mm. Confirm all sixteen triangular openings remain clear and the feet sit flat. Handle by the supports without loading the deck. Physical verification is deferred.