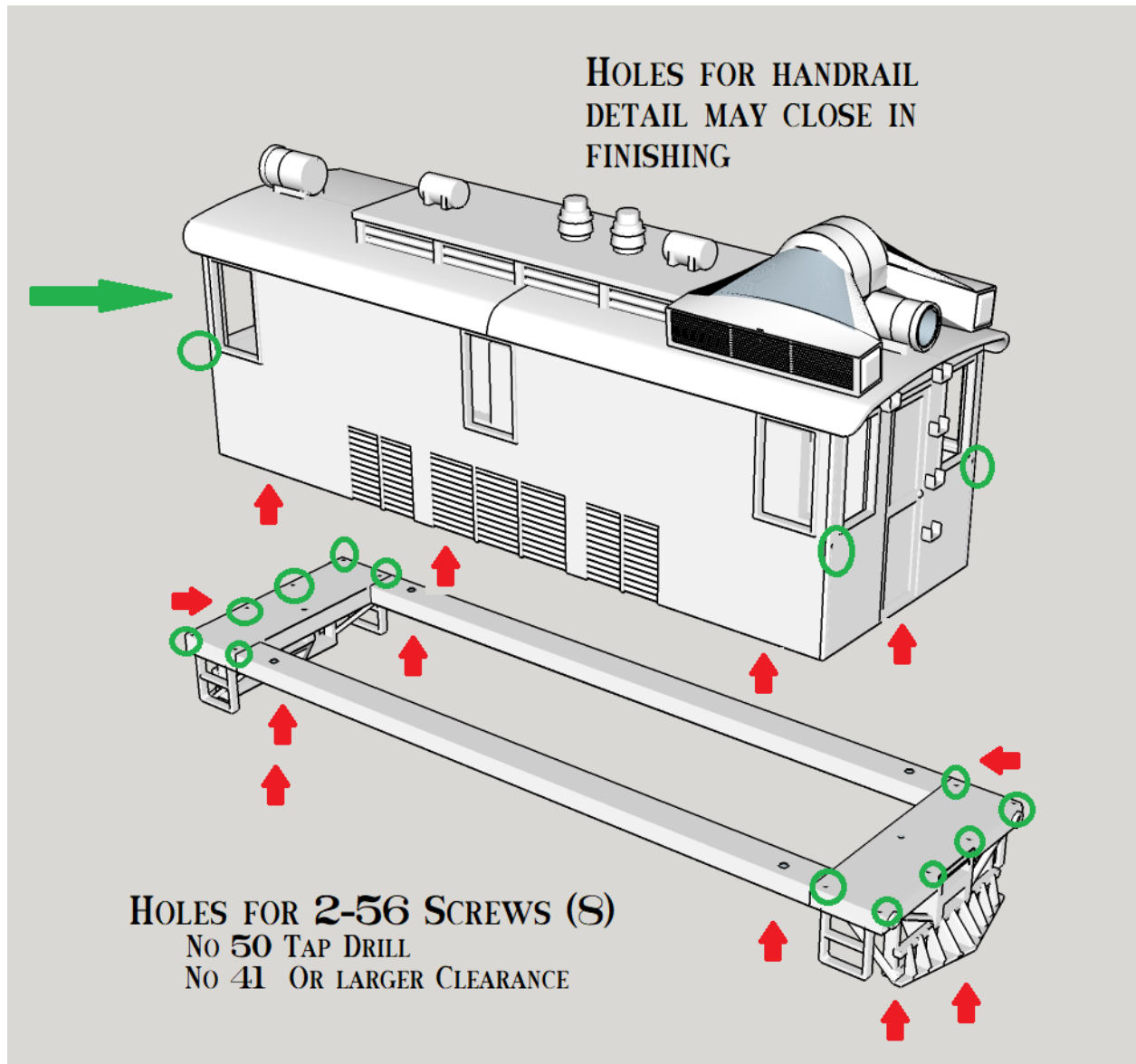


PRAIRIE LOCOMOTIVE WORKS, LLC's "29 TON GE BOX CAB" IN ON30



Thank you for your purchase of our 3d Printed Superstructure Kit for the “29 Ton GE Box Cab.” This is a fictional locomotive based on our research into the 35 Ton models sent to Panama, but optimized for operation with On30 Sized Trains.

To build this kit you will require:

- Bachmann HO Scale S-4 Locomotive (Sound Value, DCC, or DC)
- 29 Ton Box Cab Body printed in Shapeways “Versatile Plastic”
- 29 Ton Box Cab Frame printed in Shapeways “Versatile Plastic”

The following tools and materials are helpful:

- #2-56 x .5 Inch Screws (10)
- #50 Drill Bit
- 3/32" Drill Bit
- Various fine sand papers down to 600 grit
- Music or Brass wire for hand rails

Assembly Instructions

- 1) Cleaning and drilling out holes. Between the two pieces there are 10 pre made holes. There are 8 holes in the Frame, that should be drilled out with a #50 drill. The two in the pilot are for the couplers, two in the deck line up with the holes in the Bachmann S-4, and four in the side frames with line up the holes in body. The Body has four holes, which should also be drilled out with the #50 drill bit. You can either file or use a drill big to clean the coupler slots.
- 2) Finishing the parts: The Versatile Plastic from Shapeways is a nylon powder with is sintered together with lasers to achieve the desired shape. It is strong, and somewhat flexible, but shows the grain of the layering process from which it was created. We recommend you paint both parts with an automotive "Filling Primer," we used the one sold by Duplicolor. This will fill in the gaps, though two coats with sanding in between may be required. During this process the holes printed for the handrails will fill with powder and close up. Keep them open with a small drill or pick to preserve their location (marked in green on the exploded drawing). Work into the higher sandpaper numbers, we recommend a final wet sanding with 600 grit before the last top coat.
- 3) Bend and insert the wire hand rails. There are four pieces on each end. Trim and glue in place.
- 4) Remove the case from the Bachmann S-4: There is a screw on each end that both holds the coupler and body to the metal frame.

- 5) Assemble and join the body and frame. Drill the four corner holes in the frame to 3/32, and then drive a #2-56 screw through into the body. Once the screw is started, turn until snug, and then back a half a turn before continuing (you are threading the hole in the body as you do this). Join this assembly to the Bachmann mechanism, by repeating this process with #2-56 screws through the holes for the coupler and case. These will extend slightly through the deck when they are full seated. There will be a gap on each of the mechanism to allow sound to escape if so equipped.
- 6) Coupler installation: The 3-d Printed frame has two options for couplers, the lower being the standard HO Height, and NMRA On30 standard, the upper is for an S or On3 style coupler at the On3 Height. The Bachmann coupler is similar to the Kadee 148 “wisker” type coupler. Insert the coupler into the slot and ensure it pivots freely. Then drive a #2-56 screw through the openings to hold the coupler in place on each end.

Your locomotive is now ready for use!

We welcome your feedback and comments at www.prairielocoworks.com