

# Boulder Valley Models ..... #352 "Littlebose" Boxcab ..... Assembly Instructions

**Before you begin:** Wash resin parts, read notes on parts listing page, read instructions & consider your own preferences regarding painting, etc. prior to assembly.

**Metric equivalents:** 1" actual measure = 2.54 cm or 25.4 mm

1" (inch) scale measure = 0.53 mm \* 1' (foot) scale measure = 6.35 mm

## Preparation of Bachmann Chassis

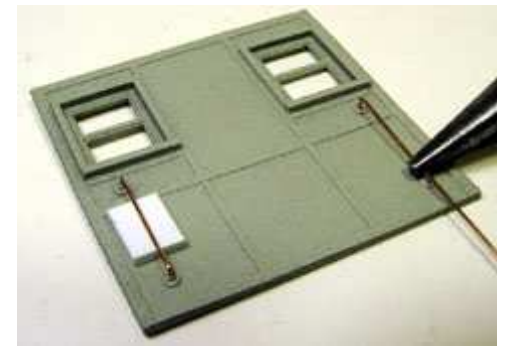
- ★ The Littlebose boxcab is based on a kitbash built by Allen Littlefield, who was inspired by Sam Barbose's mini-boxcab bashes in our web gallery. Special thanks to Allen and Sam!
- ★ Test run your Bachmann On30 Davenport prior to disassembly or modification in case any warranty work is needed. Break-in loco by running on a loop of track.
- ★ Design note: The REAR of the Bachmann loco chassis becomes the FRONT of the Littlebose Boxcab. This allows for placement of crew seat and keeps the motor in the rear portion of the boxcab.



- Remove body from Davenport: remove coupler mounting screw from the underside of each end. Pull coupler boxes and couplers from ends and set aside. Unplug wires from headlight and lift body.
- Kit includes new steps for FRONT of Boxcab (rear of Davenport). The steps in kit are larger and allow for better alignment with the cab door. Review the photos and instructions. If you choose to use these new steps, remove the metal steps from the REAR ONLY of the Davenport mechanism, as indicated by arrow at right. Use pliers to pull metal steps. Remove seat and control stand from cab area of Bachmann chassis. Set aside body and spare parts for use in future projects!
- We opted to paint the chassis, coupler boxes, counter weights and side rods -- see the "Painting Tips" section of our web page for specific details and photos!

## Begin Assembly of your Littlebose Boxcab

- ★ **Note:** We've pre-painted individual parts to improve photo quality -- we suggest assembling **unpainted** parts and following the painting tips given along the way!
- Drill #75 holes in center of each NBW (nut-bolt-washer detail) on cab front (Part D). Trim legs of two drop-grabs (Part Z6) to approx. 5" scale and glue in place as shown.



- Use 060 styrene shim (Part \_) to space grab irons from surface as shown on rear.
- Drill #75 holes in center of each NBW on cab rear (Part E). Form vertical grabs from fine wire (Part Z3). Use pliers to form a 90-degree bend approx. 5" scale from first end. Place end in hole in NBW as shown and determine location of next bend. Place pliers as shown. Lift wire, form second bend and trim wire end. Glue in place; repeat.
- Drill #75 holes in center of each NBW on cab right (Part B). Trim legs of five drop-grabs to approx. 5" scale and glue in place as shown using styrene shim for alignment.
- Form two vertical grabs from fine wire and glue in place by door.
- If desired, form door latch from fine wire (L-shape, 4-5" scale on each leg). Drill #75 hole in door and glue in place. Note: Door latch should be placed at front end of cab to suggest sliding door that opens to rear. Extra detail: drill a shallow keyhole dimple just below door latch.
- Repeat preceding steps for cab left (Part C).
- **Optional** louver panels (Part J): If desired, glue in place on each side as shown.



## Cab Assembly

- ★ **Orientation of cab sides:** Cab sides fit BETWEEN cab ends. Door on each side should be placed toward FRONT of boxcab.
- Glue edge of cab right to back surface of cab front as shown. Glue cab left in place on opposite side.
- Glue cab rear to edge of one side and allow to set. Flex out other side as shown and apply glue to edge. Glue cab rear to second side to complete main cab assembly.



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- Test fit mounting brackets (Part H) on mechanism as shown. Press coupler boxes into place to check clearance. **DO NOT GLUE** any of these items.
- Test fit body over brackets as shown above right. File ends of brackets if needed to fit inside body. Note that the brackets may be arranged with flush ends toward the outside or inside. Remove coupler boxes and play with the arrangement of brackets for best fit of body on mechanism. The brackets should fit snugly against the body. Shims (Part Z8 and Z9) are provided if needed, as the exact size of the castings will vary slightly.
- ★ **IMPORTANT:** Do NOT glue the brackets to the mechanism. These pieces will allow the boxcab body to be removed if servicing is necessary. **ONLY** glue the brackets to the body as described below.
- ★ **IMPORTANT:** Double check orientation -- front of boxcab sits over the rounded gray hump on mechanism as shown above. Once you've decided on the arrangement of the brackets, be careful to mount these to the body in the same orientation.
- Photo at right shows one of the brackets glued in place inside body. Note that the bottom edge of the bracket strip (horizontal portion of bracket) is mounted flush with bottom edge of boxcab body.
- Remove the front mounting bracket (and shim if needed) from the mechanism and glue inside boxcab body.
- Repeat for rear mounting bracket (and shim if needed).
- Test fit bulkhead (Part F) on mechanism as shown and inside body as shown -- do NOT glue. File edges of bulkhead if needed.



- Form door latch from fine wire; drill #75 hole and glue in place as shown. Set aside bulkhead to be painted separately.

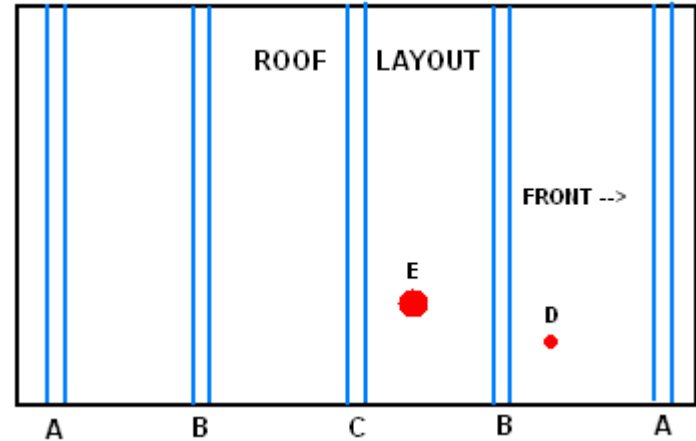


## Roof Assembly

- Use a low-tack tape (painter's tape or magic tape) to temporary tack roof form (Part A) to body assembly. Turn assembly over and use a pencil to trace the inside of the body onto the roof form. Remove tape and roof form.



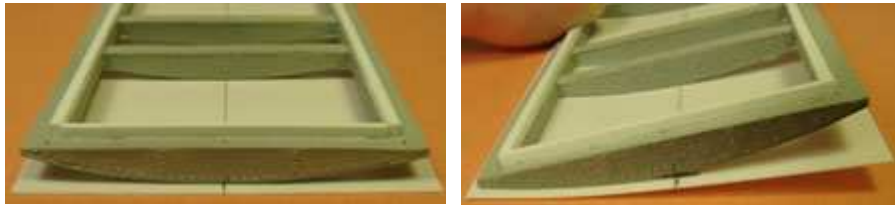
- Cut two pieces of 060x060 strip (Part Z11) slightly shorter than inside length of boxcab body. Test fit against pencil marks. Glue in place as shown above left.
- Cut two pieces of 040x060 strip (Part Z10) slightly shorter than inside width of body. Glue in place as shown above right. Test fit roof on body.



- ★ **Optional:** Roof ribs and roof-top details may be varied as desired. Use the following steps to reproduce the placement of roof ribs, horn and exhaust as shown on sample.
  - Use a pencil to mark the roof stock (Part Z2) as shown. Each rib is 3" scale width.
  - End ribs (A) -- draw a mark 3" and 6" scale from each end.
  - Middle ribs (B) -- draw a mark 3'3" and 3'6" scale from each end.
  - Center rib (C) -- draw mark 5'10-1/2" scale from each end (or 3" wide band at center).
  - Horn locating mark (D) -- 2'6" from front and 1'6" from edge.

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- Exhaust flange locator (E) -- 5'0" from front and 2'6" from edge.
- Turn roof stock over and draw a center line along the length as shown in photo above roof diagram. Make center marks on ends of the roof form casting as shown below.



- Place a dab of superglue ONLY at the center of each arch on the roof form and carefully center on roof stock as shown above left. Let set.
- Apply ACC on top of arches and along top edge of roof form along left side and roll against roof stock as shown above right. Let set. Repeat for right side.

- Use styrene cement to glue roof ribs in place using pencil marks as a guide. Allow ends to overhang the roof as shown. Allow to set, then trim ends of rib flush with edge of roof.



- Drill hole for horn (Part R). Set aside to paint horn separately.
- Optional muffler:** If desired, lightly sand back of exhaust flange (Part V) to remove part from backing. Glue in place.

- ★ **Rather have an air tank?** If you prefer not to use the exhaust as shown, you can use the muffler casting (Part S) as an air tank by adding end caps (Part Y) and placing as desired. Use fine wire for piping. (The muffler set is available as a separate detail item if you'd like both a muffler and air tank.)



- Optional muffler:** The muffler assembly may be varied as shown. Or, you can omit the muffler and use the casting as an air tank by adding the end caps (Part Y) and placing as desired. Use fine wire for piping.



- File casting marks from muffler casting. Carefully trim out muffler risers (Part W) and glue in place on underside of muffler as shown.
- File casting marks from elbow pipe (Part T). To reproduce the silver version shown above, use this piece full size. For the gray version, cut 1/8" from long side. Glue elbow pipe to muffler as shown below.



- Tail pipe length may also be varied. Cut pipe (Part U) to 1'9" for silver version or 2'6" for gray version. Angle rear end if

- desired. Glue pipe to back of muffler as shown.
- Carefully trim out pipe riser (Part X). Test fit muffler on roof and determine placement of pipe riser to clear roof rib. Glue riser to pipe. Set aside completed muffler assembly to be painted separately.

## Optional headlight arrangements & bell placement

- ★ **Design feature:** We've designed the headlight assembly to allow for front or rooftop mounting. If you're adding incandescent bulbs or LED's, you may have to enlarge the opening to suit. Review the photos and text to determine which arrangement you prefer prior to assembly.

- ★ **Optional rear light:** We've provided a single headlight, as the Bachmann loco has wires for one light. If you wish to add additional wiring and a back-up light, the headlight set included in this kit is available as a separate detail. You could use a top-mount light on the front and end-mount light on the rear or vary to suit.



- ★ **Photo:** front-mount headlight shown at left; top-mount at right on loco #7.

- Front-mount headlight:** determine desired placement. Pre-drill mounting plate (Part N) to accommodate desired light bulb. Drill thru front wall for headlight. Enlarge hole in headlight (Part K) for bulb if needed. Glue headlight to mounting plate. Add optional visor (Part L) if desired. Glue assembly to loco front or set aside if you plan to paint the headlight separately.

- Top-mount headlight:** Bulb may be installed from back or thru bottom. Enlarge hole in headlight if needed or drill thru bottom of headlight and base (Part M). Glue headlight to base as shown. If light is mounted from bottom, add rear cap (Part O) to cover hole in rear of headlight casting. Add visor if desired. Set aside headlight assembly to place separately. Second photo shows how we fit an LED to this light and routed the leads thru the roof.



- Plan ahead / wiring:** Test fit desired bulb in headlight; place body on mechanism and loosely place bulkhead. You may wish to notch the bulkhead to route wires to lights.

- Bell preparation and placement:** Lightly sand bottom of bell (Part P) to remove from backing and maintain round bottom. Drill bracket (Part Q) to accept bell -- make hole slightly oversize to allow for added paint thickness if bell is painted separately. Determine desired location and glue bracket to boxcab body. Set aside bell to paint separately.

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## Final Preparations

- Test fit brass mesh (Part Z4) in side openings. Trim carefully with old scissors if needed. Set aside.
- Place body on mechanism. Hold side sill (Part G) in place against mechanism beneath boxcab side. Mark location of door edges on side sill. Place side sill on work surface and place step (Part I) to match door location. Glue step to side sill. Repeat for opposite side. Set aside to be painted separately.



## Painting & Final Assembly

- If desired, pre-paint Bachmann chassis, siderods and coupler boxes. See our web page for detailed instructions and photos describing our samples.
- Paint separate parts and assemblies:** At this point, we painted the following as separate parts or assemblies: chassis, siderods and counterweights, coupler boxes, body assembly, roof assembly, bulkhead, muffler assembly, top-mount headlight (on one version), side sills, brass mesh for side panels, horn and bell.
- We did most of the painting on our sample using spray cans. First a good primer coat built up in light passes. For a heavily-weathered look with peeling paint, we created a base coat using mists of flat black, brown and a very light pass of silver. Allow this to set then use dabs of rubber cement or salt (see "Painting Tips" on our web page for details on this technique) to create areas where the rusty undercoat will show. Spray with top coat -- in this case, we used Model Master Flat Gull Gray. Once the top coat is dry, use finger tip to rub off rubber cement or salt and reveal undercoat in patches. Rub a flat toothpick over rivets to knock off the top coat and highlight.
- Once painting and weathering is complete, cut pieces of window stock (Part \_) to fit front, rear and side windows on body. Use a clear-drying adhesive such as Micro-Scale Kristal Kleer to mount. Also, mount window stock to back side of bulkhead.
- Place body assembly on mechanism. Invert and replace coupler boxes, couplers and mounting screws.
- Run wires to headlight. Notch bulkhead to clear wires if needed. Press-fit bulkhead and roof assembly into place.
- Place painted details such as horn, headlight and muffler assembly. Glue brass mesh into side panels.
- Line up some revenue operations on your layout and have fun running your Littlebose Boxcab!

- ★ Boulder Valley Models is owned & operated by Dallas Mallerich -- an On30 modeler who shares your interests and enthusiasm. Please feel free to write or email with any questions or ideas that you may have!
- ★ Once again, special thanks to Allen Littlefield and Sam Barbose for their inspiration in creating this model. Please visit the BVM Gallery on our web site for more great modeling ideas!
- ★ Thank you for your continued support, interest, ideas and encouragement! -- Dallas

## Boulder Valley Models

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