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Centralia Car Shops C-40-4 Bay Window Caboose

CAR HISTORY AND DECORATION

The HO scale, Centralia Car Shops C-40-4 Bay Window Caboose faithfully reproduces the Southern Pacific prototype car numbers 1400-1599, and the rebuilt car numbers 4000-4129. The prototype cabooses received many modifications over their service life. Numerous parts have been included in this kit to allow specific detailing of the completed model from new, as-built, to the end of service. You may want to have a photo of the caboose being modeled to guide the choices during assembly. These cabooses were painted oxide red with orange on ends and angled bay panels and white lettering.

GENERAL COMMENTS

Please read all instructions and study the images and parts before beginning assembly of this kit! Many of the parts are very delicate, in order for your completed model to be as attractive and authentic as possible. **DO NOT ATTEMPT TO BEND, TWIST, OR BREAK PARTS FROM THE SPRUE.** The most effective tools to use in removing parts from their sprue are an X-ACTO knife, fine sprue nippers, or a sharp, single edge razor blade. It is best to test fit **ALL PARTS** before applying glue. The locators sometimes are slightly damaged when removing them from the runner and must be trimmed before the locator holes will accept them. It may be helpful to open locator holes with a drill or reamer. We recommend a gap-filling cyanoacrylate glue for joining the parts, plastic-to-plastic, and the metal parts to the plastic. Generally very small amounts of glue are needed to affix parts, so we recommend that glue be used sparingly and applied with a small applicator.

The connecting point between the part and the "runner" to which it is attached is called a "gate". The gates have been designed to be trimmed completely flush with the part except in those cases where the part itself is used as the gate.

This model has been designed to accept the Kadee® No. 178 coupler. The Kadee® No. 178 coupler is not included in this kit.

ASSEMBLY SEQUENCE

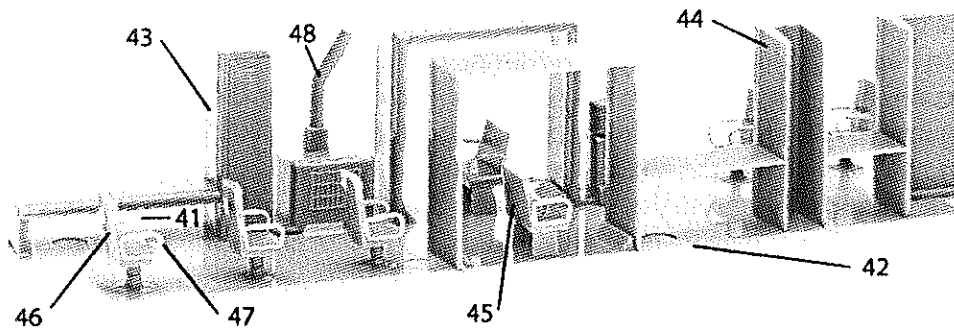
INTERIOR

1. There are five individual seats (#46) and two bench seats (#45) for the interior. Glue a left armrest (#41) and a right armrest (#47) to the sides of each seat and each bench seat. Attach each seat pedestal into one of the locating holes along the sides of the inside floor (#42). The seats can be oriented in one direction, however the prototype chairs rotated.

Attach each bench seat to a pair of supports located at the middle of the inside floor. The prototype bench seats were reversible.

2. Attach the interior (#43) section with the stove and water cooler, into the four locator holes along the side of the floor with two chairs. Attach the other interior (#44) section with the cabinet into the three locator holes on the opposite side.

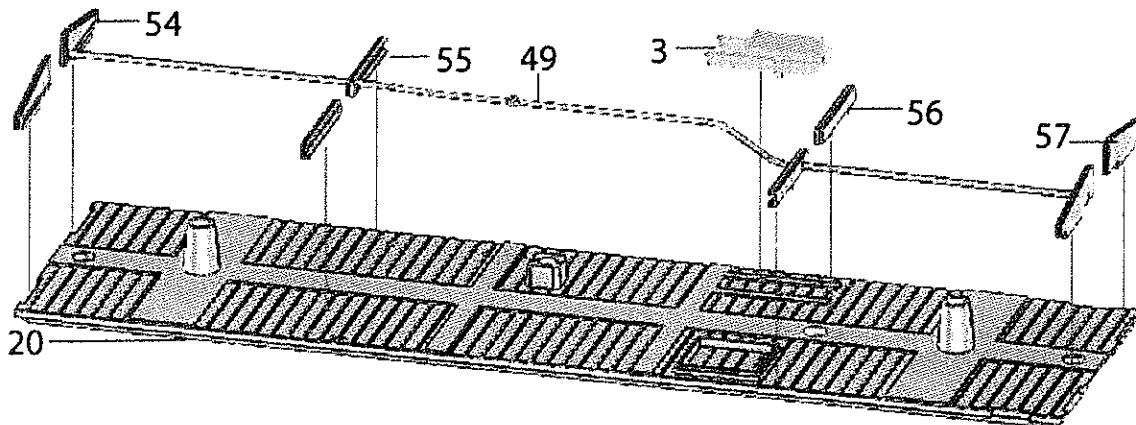
3. Attach the stove pipe to the stove. The top of the pipe angles toward the bay window at the car center.



The interior is now assembled. Paint the interior as needed and set aside.

UNDERFRAME

4. Orient the bottom floor (#20) bottom up and with the fuel oil tank mounting rectangle to the right. Attach one center cross member with a train line hole (#55) into the two locator holes next to the fuel tank mounting rectangle. Note the cross members have the center web facing the center of the floor. Thread the shorter end of the train line pipe (#49) through the hole of the installed cross member. Do not cement the train line in place. Thread the hole of the second (#55) cross member onto the longer end of the train line and attach it into the two locator holes diagonally opposite the other. Attach the two center cross members without train line holes (#56) in the remaining paired locator holes of the floor.



5. Attach the two end cross members with train line hole (#54) to the notches at the ends of the bottom floor. The ends of the train line should fit into the holes in the end cross

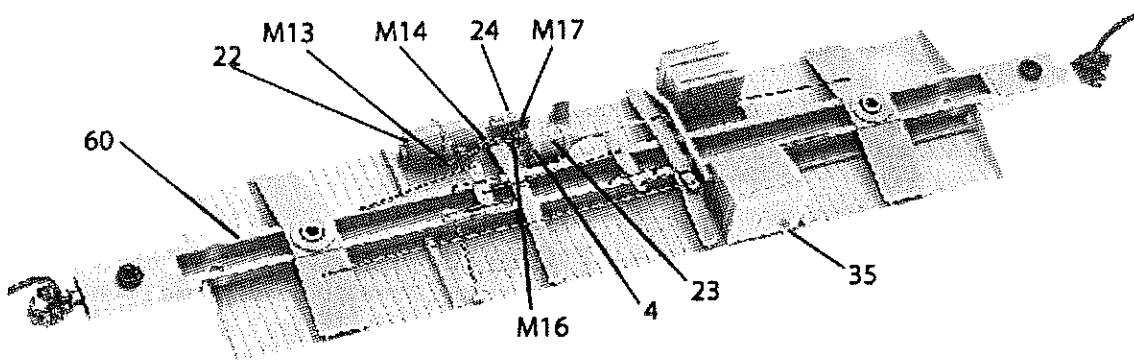
members. Then attach the two end cross members without train line holes to the remaining notches at the ends of the bottom floor.

6. Attach the battery box lid (#3) in the three locating holes in the bottom floor.

The parts in this kit can complete caboose models with many variations. These instructions will indicate variations as:

(OPTIONAL ASSEMBLY)

7. There are two under frame parts included in this kit, longer under frame as rebuilt (#60) and under frame as-built (#61). The coupler boxes extend further on the longer under frame as rebuilt, to simulate end-of-car cushioning which was added to the prototype caboose after being placed in service. Choose the desired under frame for the model. Note that the under frame has a locating pin near where the train line will cross under the center sill. Cement the under frame to the floor in three or four locations along the center sill. Both under frames fit the bottom floor the same. Make sure the train line fits into the locators at the center sill and at the bolsters of the under frame.



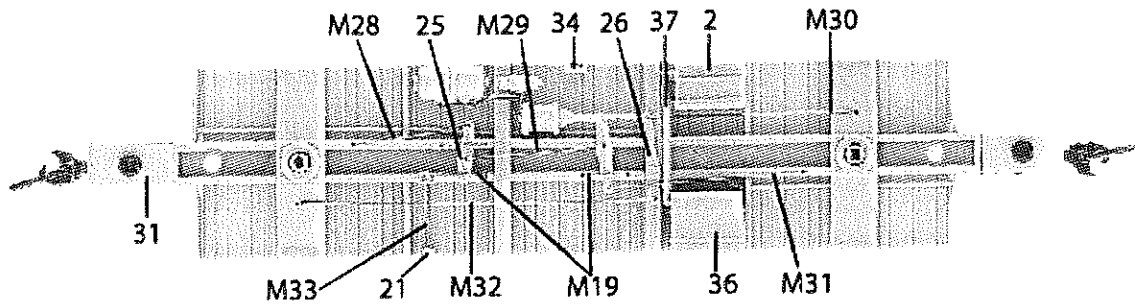
8. Attach the brake reservoir (#22) and triple valve (#24) in the locator holes in the bottom floor. Note the small holes in the brake valve must point toward the center sill. You may want to clear the holes in the parts with a #78 drill for later assembly.

9. Attach the short wire line (#M14) between the brake reservoir and the triple valve and then the longer wire line (#M13). These wires insert into the two holes of the triple valve, closest to the floor. Attach the wire line (#M17) from the hole in the triple valve, furthest from the floor, to the hole in the train line.

10. Attach the brake cylinder end cap (#4) on the brake cylinder (#23). Attach the brake cylinder in the locator hole in the raised boss on the floor. Attach the wire line (#M16) from the triple valve to the brake cylinder.

11. Attach the double brake lever (#26) on the locator pin molded onto the center sill. The longer lever has a recess that fits over a small pin on the sill. Insert the end with chain of the shorter lever in the open end of the brake cylinder clevis.

12. Attach the single brake lever (#25) with slack adjuster to the sill, and the center brake rod (#M29) between the double brake lever and the single brake lever.



13. Attach the short brake rod (#M28) between the single brake lever and the locator hole in the center sill, and the longer brake rod (#M31) between the end of the brake lever and the locator hole in the center sill.

14. Attach the three brake lever brackets (#M19) to the locator holes in the sill.

15. Attach the brake adjuster (#21) gear drive to the floor. The hole in the gear drive faces the center sill. Attach the slack adjuster wire line (#M33) between the gearbox and the chain pulley of the single brake lever.

16. Attach the hand brake rods (#M30 & #M32) between the end holes of the hand brake lever and the holes in the bolsters.

(OPTIONAL ASSEMBLY)

17. The floor mounted retaining valve (#34) is attached to the bottom floor for a rebuilt version of the car. If modeling an as-built version of the caboose, the retaining valve is attached to one end of the caboose, as will be shown later in these instructions.

18. Attach the battery box (#2) onto the battery box lid. Ensure the hinge and latch detail faces away from the center sill.

19. Attach the fuel oil tank (#36) onto the mounting rectangle. Ensure the sight glass detail faces away from the center sill. Attach a fuel oil fill cap (#35) to the two locator dimples near the sight glass detail on the fuel tank. Attach the fuel oil fill pipe (#37) from the fuel oil tank across the center sill to the locator hole in the bottom floor.

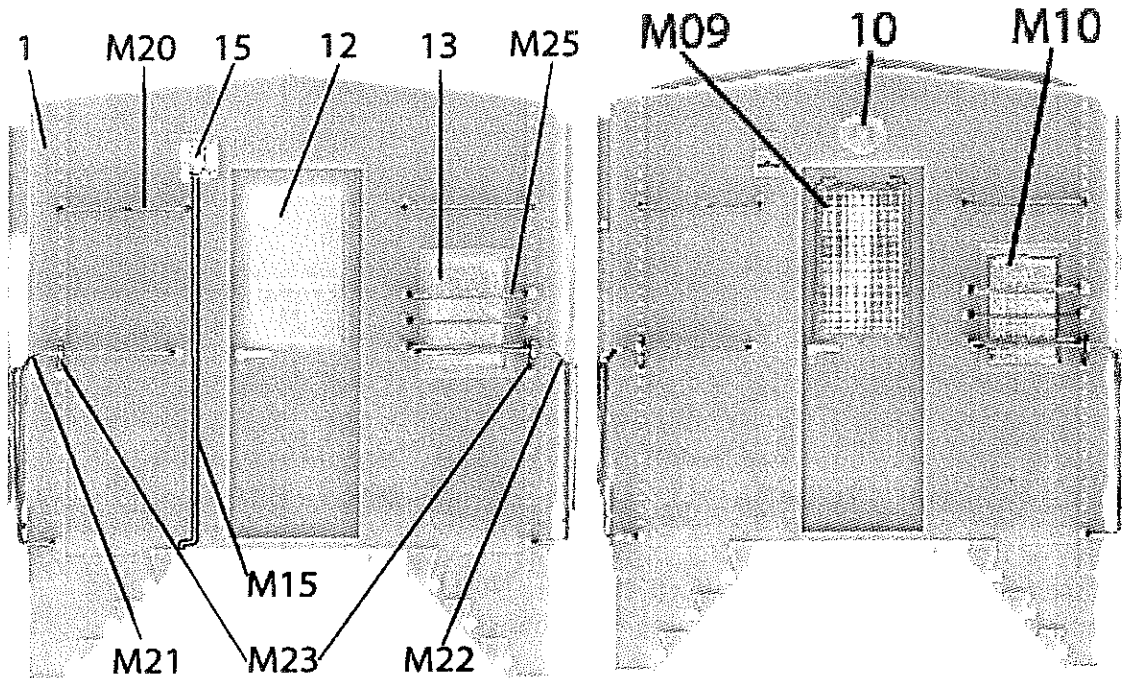
The under frame is now assembled. The images show the couplers assembled into the coupler boxes with the coupler box lids (#31) and the included screws. It is optional to attach the couplers at this time.

THE CAR BODY

END

20. Attach the end door window glass (#12) and end window glass (#13) to the body (#1).

21. Attach the end door screen (#M09) and end window screen (#M10).



22. Attach the two upper end grab irons (#M20), leaving them approximately .030 in. from the surface.

23. Attach three window guard bars (#M25) over the end window.

24. Attach an end hand rail eyelet (with bent leg) (#M23) and the left end hand rail (#M21), then attach the right end hand rail (#M22) with another eyelet. Note the eyelet is attached canted vertically up.

(OPTIONAL ASSEMBLY)

25. For the as-built caboose, attach the body mounted retaining valve (#15) in the locator hole near the top of the end door and the wire retaining valve line (#M15). Note the rebuilt caboose uses the alternate floor mounted retaining valve (#34) shown in step 17.

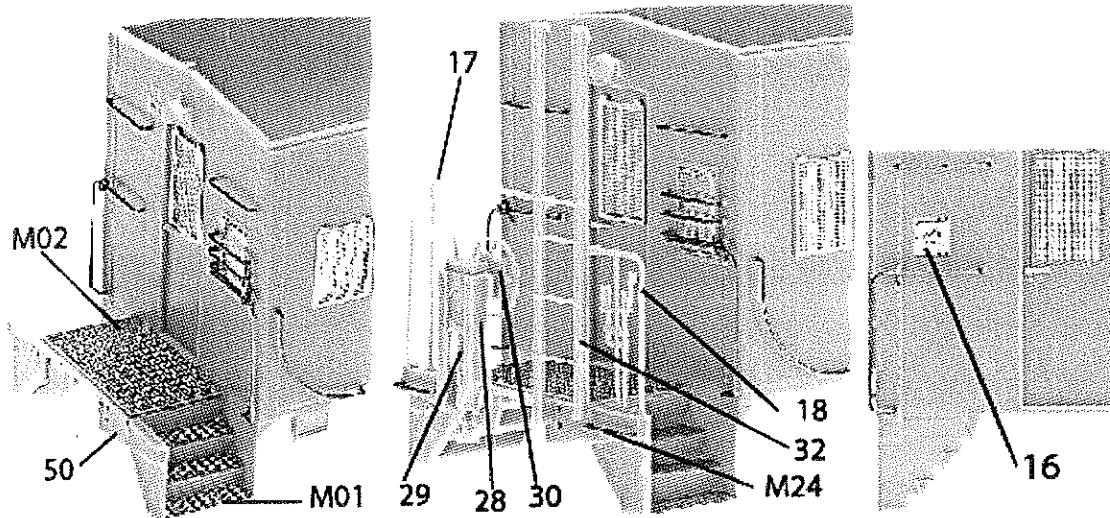
(OPTIONAL ASSEMBLY)

26. For the rebuilt caboose, attach the (clear) end signal light (#10) to the end, centered above the end door. The end light lens is red and was installed on rebuilt cabooses that had the running board removed.

The other end is detailed similarly, but without the retaining valve.

PLATFORM AND STEPS

27. Test fit the end platform (#50) in six locator holes at the end of the body. When satisfied with the fit cement in place at all six locations.



28. Attach the etched metal end platform (#M02). Note there is a notch in the etched platform that will clear the wire retaining valve line (#M15).

29. Attach the six etched metal steps (#M01). Each step tread has one long side with a wider edge, this edge faces outward.

(OPTIONAL ASSEMBLY)

30. There are two styles of brake mechanism: as-built (#27) which has two straight vertical rails, and rebuilt (#28) which has one angled rail. The as-built brake mechanism with straight rails (#27) is used with the as-built under frame (#61), and the rebuilt mechanism (#28) is used with the rebuilt under frame (#60). Both brake mechanism parts fit onto the end platform the same. Assemble the brake mechanism (#28) or (#27) by attaching the brake mechanism chain (#29) in the slot at the center of the brake mechanism. Attach the brake wheel (#30). Attach the assembled brake mechanism on the end sill. The clevis at the end of the chain should fit over the tip of the fulcrum projecting out from the end sill.

(OPTIONAL ASSEMBLY)

31. There are two styles of end ladder: as-built (#33) which has six rungs, and rebuilt (#32) which has four rungs. Both ladders fit the end platform the same. Select the appropriate ladder for your car and attach it on the end sill.

32. Attach the end platform handrail with whistle (#18) to the right side of the end sill. Cement the top end of the handrail to the side of the ladder.

33. Attach the end platform handrail (#17) to the left side of the end sill. Cement the horizontal bar of the handrail to the other side of the ladder.

34. Attach the end platform grab irons (#M24).

(OPTIONAL ASSEMBLY)

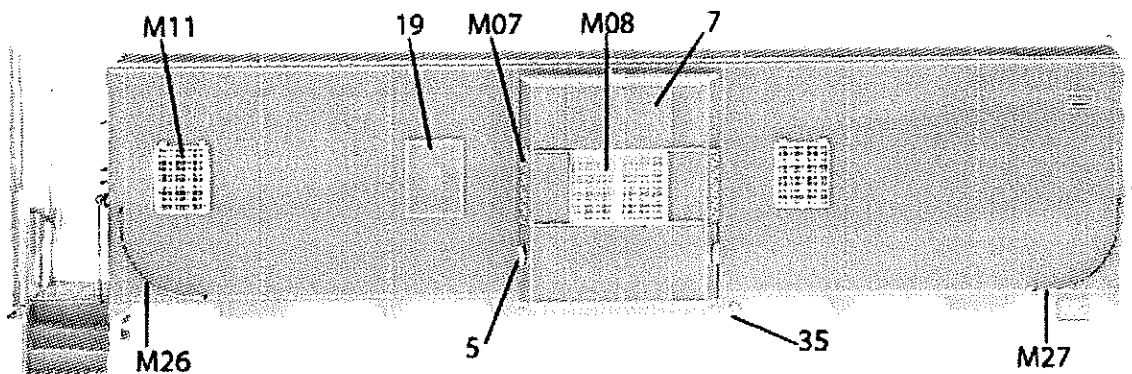
35. A rebuilt caboose sometimes had the fuel oil tank relocated inside the body. To model this variation, do not attach the fuel oil tank (#36) or the fuel oil fill pipe (#37). Attach the end fuel filler (#16) to the end of the car without the retaining valve locator. The end fuel filler position varied. Drill a .040 in. dia. hole to attach the end fuel filler.

Assemble the other end platform following steps 27 - 34.

SIDE DETAIL

(OPTIONAL ASSEMBLY)

36. Attach the side window glass (#11) in the side window openings. Note there are window opening plugs (#19) which cover select window openings on rebuilt cabooses. Refer to photos of the prototype cabooses to determine where to attach the plugs.



(OPTIONAL ASSEMBLY)

37. There are two styles of bay for the caboose: as-built (#6), and rebuilt (#7) which has round vents on the angled surfaces below the windows. Select the bay style for the caboose. Both bays fit the body side the same. If selected, attach the two air vents (#5) in the dimples on the angled surfaces. Then attach the bay window center glass (#9) and the two bay window glass (#8). Then attach the assembled bay window to the car side.

38. Attach the body side window screens (#M11), bay side screens (#M07), and bay center screens (#M08) over the window glass.

39. Attach the curved side handrail left (#M26) and right (#M27). Each curved handrail has a straight section which should be mounted near the upper hole.

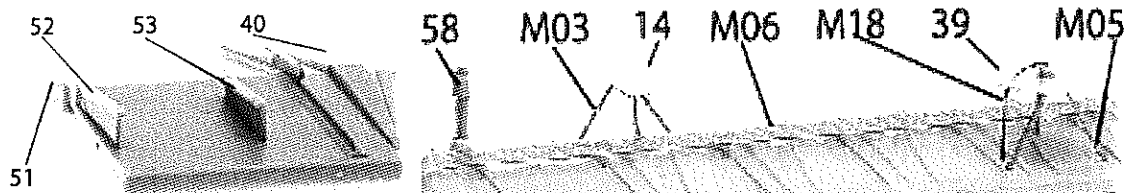
40. Attach the side fuel oil fill cap (#35) in the two dimples on the side of the body below and right of the bay window. Note if the end fuel filler (#16) is modeled, then side fuel filler plate (#64) is attached in place of the side fuel oil fill cap.

(OPTIONAL ASSEMBLY)

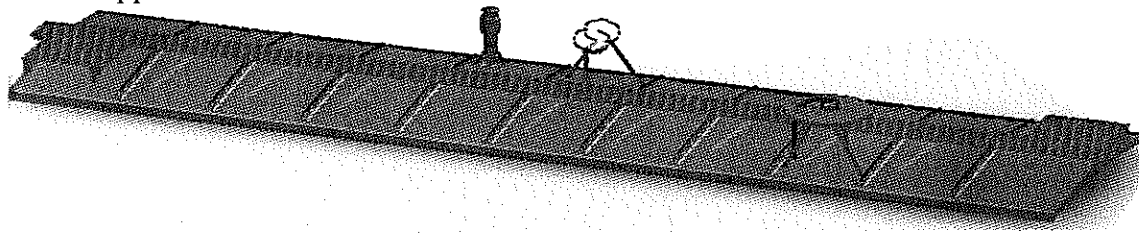
41. The cabooses received bay window gutters (#M04) installed over the bay windows after being placed in service. If selected attach the trapezoidal shaped etched metal gutters to the top of each bay.

ROOF

42. Remove the round molding gate from the central flat panel of the roof. There are drill locating dimples at the under side of the roof. If modeling the as-built car, drill through the holes for the running board supports (4 locations each end) with a #78 drill. Attach one left running board support (#52) and one right support (#53) on each end of the roof (#40). Drill two locating holes approximately .170 in. apart in the center of each end of the roof. Attach the end running board support (#51) in the drilled holes at each end of the roof.



43. Attach the etched running board (#M06), aligned with the pins located on the running board supports.



44. Drill through the four holes for the antenna ground plane and conduit. Form the etched antenna ground plane mount (#M05) and attach to the roof. The straight leg attaches near the roof center, the angled legs near the eave. Attach the antenna ground plane (#39) disk onto the mount. Attach the wire antenna conduit (#M18) through the disk and into the fourth hole in the roof and in the hole in the center of the disk.

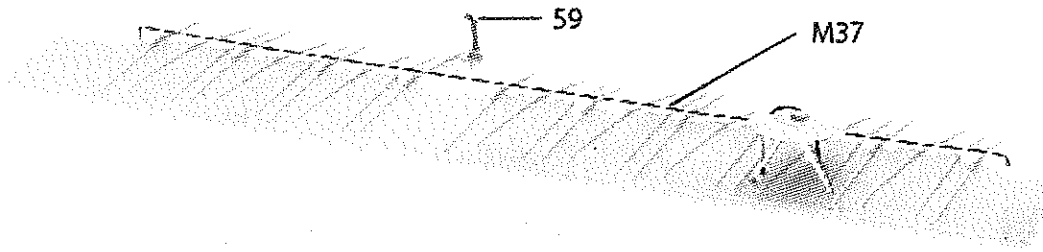
45. Drill through the three holes for the frog-eye mount (#M03). Bend the mount to fit the holes and attach. The straight leg attaches near the roof center. Then attach the clear frog-eye signal light (#14) to the mount. Note the frog-eye lens is red.

46. Attach the as-built cylindrical smoke jack (#58) in the locator hole on the roof.

(OPTIONAL ASSEMBLY)

The roof details varied over the service life of the cabooses.

- a. Most noticeable is the removal of the running board (#M06), along with the end running board supports (#51), however the left and right running board supports were not always removed.
- b. There is a rebuilt roof mounted smoke jack included, a version that is 'T' shaped (#59).
- c. The frog-eye signal light was removed from the roof and replaced by a single signal light (#10) mounted above each end door. A roof conduit pipe (#M37) connected between the end signal lights.



47. For the rebuilt roof, drill through the two holes for the conduit pipe (#M37). Attach the conduit pipe through these holes. The ends of the conduit pipe will extend down to the end signal lights when the roof is assembled to the body.

48. For the rebuilt roof, attach the antenna assembly as done in step 44.

49. For the rebuilt roof, attach the rebuilt smoke jack (#59).

FINAL ASSEMBLY

50. Attach the roof to the body. One end of the body has a top locating pin that will match up with a locating hole in the roof.

51. Attach the ladders into their respective locating holes in the ends of the roof. The end platform handrail (#17) attaches into a locating hole under the corner of the roof.

52. Attach the couplers and coupler box lids (#31) with the shorter screws provided.

53. Attach the interior assembly to the under frame assembly with the shorter screws provided. Install the steel weight (#M12) between the interior and the under frame. Note there is a pin on the bottom floor that fits into a locating hole on the inside floor.

54. Align the under frame assembly with the body. The bottom floor has a pair of side notches at one end. The body has a pair of rectangular panels that will slide through the notches. Slide the under frame/interior assembly into the car body until it rests on the stops at each end of the car and attach with the longer screws provided.

55. Attach the inside running board handrail (#M35) and the outside running board handrail (#M36) between the running board and the ladder at each end of the as-built caboose.

56. Attach the uncoupling rod (#M38) to each end sill with two straight eyelets. Note there is a locator hole in the coupler box lid to locate the uncoupling rod.

57. Attach a glad hand (#38) through the hole at each end sill.

58. Position the trucks (#63) over the bolsters and attach with the longer screws provided. Note the trucks have a side frame spring (#62) that is a separate part.

