Twenty Models

Classic 1920s Railroading

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Canadian Pacific

272014 Series

47’ Steel Horse Car

Kit: SC-01a (K-brake)

Introduction

Thank you for purchasing this model kit. It’s my pleasure to share models that I have made for my own model railroad with you. If you need help, have suggestions for improvements or new model ideas contact me at sales@twentymodels.ca.

History

In yester-year horses for racing, farm, work and consumption glided between destinations over rail. There were 2 service levels offered; fast premium service on passenger trains for valuable race and show horses or slower regular freight schedules.

The CPR had 2 groups of freight horse cars for general movement of stock. Fifteen wood frame truss-rod cars numbered 257983-257997 built between 1910 and 1913 and, fifteen steel cars numbered 258000-258014 in 1928. These were originally fitted with K-brake and stem brake winder. The horse car series were renumbered to the 272000 series in 1948 to make way for new steel box cars. The steel cars renumbered 272014-272028. Eleven cars were refitted fitted with AB brake and power brake winder around 1950.

The steel cars had a surprising long life. 272028 were shown in the 1970 and 1977 Equipment Data books (CS-39) in CP Rail scheme but, I'm not sure if it isn't a photo touch up. One car, 272019, survived on the roster to June 1985. Four were sold to Assiniboine Downs in Winnipeg Manitoba and used for storage and eventually scrapped.

This kit is based on CPR general arrangement drawing G-76-C-159 Rev.A and over 40 photos generously provided by the CPHA and friends. For more photos and details on car history please refer the product page and my article in CPHA's CP Tracks.

Kit components

Contents:

1) Body, roof, and under frame
2) Small details: air brake, airline hose and bits
3) Etched ladders, brake clevises and brake wheel, eyelets and stirrup sets
4) Decals appropriate for your model

You will need to supply the following:

1) 0.008" and 0.012" wire
2) Car weight. Tape weights or, like I use, 9/16" or 5/8" bolts
3) Bettendorf trucks – Kadee or Tahoe Model Works
4) Couplers - Kadee #58 or your preference

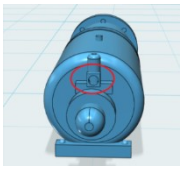
Instructions

Prep Notes

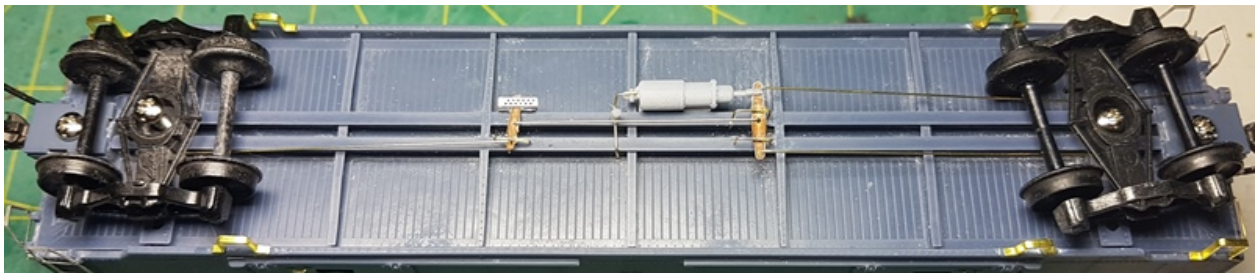
1) The printer resin used is like polyurethane resin and will sand, drill, and tap as you would expect. It has some give but will break if bent too far.
   Tip: Avoid using knifes or razor blades. The material is too hard to control with a blade. Plastic nippers, course metal files or sand paper are better for removing a large amount of material. Then finish up with a small file and sand paper.
   TIP: Make yourself a large sanding block out of scrap wood. Glue different grades of sand paper on each surface so you have even surfaces to sand on.
   TIP: Warped flat pieces, like underframes, can be straightened by quickly warming in hot tap water or using a blow dryer until flexible, then weighted down to set in the desired position and let cool or immediately put under cold water to fix the shape.
   TIP: Instead of using a hand pin vise try the Tamiya Handy Drill.
   TIP: To prevent breaking parts when removing parts from a spur, cut far from the part first, e.g., base of support structure, and then finish with a second cut close to the part.
2) Carefully try to insert the underframe into the body shell and check the fit. Carefully sand the underframe to slide into the body.
3) All drill points are marked on the model and should be easily found using the reference diagrams.
4) Once the fitting is done wash the parts in cool soapy water, rinse and let air dry.

Underframe

1) Place the underframe on your work surface in front of you with the brake cylinder mounting pad closest to you. The “B” (brake) end of the car is on your left, the “A” is on the right. You can use a marker to write on the coupler pads for reference.
2) Drill out and tap the bolsters with your favorite screw sizes. I use nylon 2-56 screws.
3) Coupler boxes can be drilled out at this time too. The box end is tight to the frame center sill. Fit the underframe and confirm this is where you want it, drill holes and tap your screws.
4) Locate the brake bracket starter holes and drill them out using a #79 drill
5) The airline on the frame has a cast spot to drill for cylinder airline to the frame. Drill it out with a #79 bit.
6) Glue weight to the underframe. You can use tape weights or, like me, glue two 5/8” bolts inside using silicone adhesive.
7) Locate the starter hole on the rear of the K Brake part and drill with a #79 bit deep enough for a wire to hold.



8) Glue the large brake clevis to the K brake and then mount on the bracket pad. Your goal is to have the clevis center hole located somewhere around along the center line of the car. The cylinder has 2 pads on it. The piston rod and clevis point to the “B” end of the car.
9) The second smaller clevis has an end without a hole, glue this end on the underframe slack adjuster pad. Glue the slack adjuster plate on top.
10) Cut a piece of 0.12” wire, make a 90° degree bend at 5mm. Bend the wire so it goes from the train line to the end of the brake cylinder. On the end close to the cylinder, thread the air dryer through and fasten it close to the bend with the trap pointing (big end) to the ground.
11) Fabricating three 16” brake rigging brackets and glue them in place.
12) Using .012” wire, run brake roads to join the brake cleaves referring to diagram. Ensure that brake rods won’t interfere with the trucks.
13) Underframe complete, add a set of trucks and set aside for now.



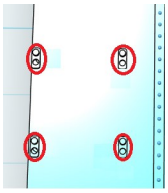
Body

1) Inspect and clean up the spur marks on the body and one edge of the roof with a file and sand paper. Carefully try to fit the roof into the body. The roof has no specific direction. If you look at the long

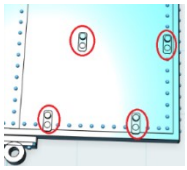
edge of the roof that slips in the body, there is a small step. When the roof is installed there should be about .4mm gap between the bottom of the roof and the car side. The lip on the end of the roof should be flush with the edge of the end. Glue in place when satisfied with the fit.

2) Referring to images, locate the grab iron and bracket drill points on the body and drill them out with a #79 drill.
   T**IP:** Larger bit size, e.g., #78, are less likely to break.
   TIP: Don't force the drill bit and start with light pressure to start the hole and back out to clear chips so it won't jam.

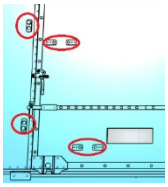
- **Two Left side grab irons**



- **Two on each end**



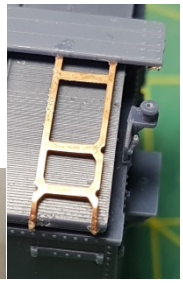
- **Four door handles and two enterance hand rails**



3) Fabricate eight 20" grab irons from .012" brass wire and ACC in place.
4) Fabricate eight 6" door handles from .012" brass wire or flat bar and ACC in place.
5) Fabricate four 38" door entrance grab irons from .012" brass wire and ACC in place.
6) Fit the roof on the body. There is no particular orientation to the part.
7) Separate the roof walk from the spur and clean up the edges with files and sand paper.
8) Glue the roof walk to the roof. The roof walk has bolts in the pattern. Center the pattern with the roof walk cleats. The walk ends should be centered on their support braces.
9) The end of the roof walk has end platform bracket etchings. They look like two legged T part (or PI shaped). Measure a bend point .5mm down the length of the cross part of the T and bend 90

degrees down its length. At the end of each leg make a small bend so the bracket legs rest on the end of the roof underneath of the roof walk.

10) Cut the roof platform bracket etchings and form. Gently curve the ends so the two legs can attach to the edge of the roof. Shape the rest of the part to the curve of the roof. The tang that is glued under the running board can be left flat. When happy, align the part so that the bracket is aligned with the ladder bracket and connected underneath the roof walk. Glue the part in place.



11) Locate and drill the 3 grab iron holes on the roof platforms then glue on the bracket. The platform is aligned with the roof edge. Glue an eyelet at 45 degrees for the corner roof grab iron and then fabricate two 20" right angle grab irons and fasten.
12) Glue the roof globe vents on.
13) Glue the body to the underframe. Ensure the "B" end of the underframe and body are the same orientation.
14) It's a good time to add couplers before the last of the body details are added. Yay, we're almost there!
15) Carefully drill the brake stem winder hole and through the brake racket. The drilling dimple is on the lower bracket's outer face. Drill a hole for the brake release airline.
16) Locate the brake relief valve to on the end of the roof. The base of the valve has a dimple to drill a hold to fasten the relief valve line. Fabricate a relief valve line from the valve to the bottom of the car end using .008" wire by making a 90 degree bend on one end and put it in the hole. Then work the wire to follow down and then zig-zag closer to the coupler pocket stopping at the bottom of the side.
17) Cut a piece of .012" wire 44mm long. The brake wheel is metal and can be soldered or glued to the brake stem. Thread the wire through the holes and cut stem winder shaft so its 2.3mm (8") above the roof walk height.
18) Cut out the ladders and trim the length to 38.5mm. The bottom rung is aligned with the bottom of the side sheet.
19) The included stirrup steps are fashioned by bending them like so:
    Small: measure 5mm from each end and make the part U-shaped. Then bend the mounting tab.
    End: measure 6.9mm from each end and make the part U-shaped. Then bend the mounting tab.
20) Optional: Add cut/uncoupling levers. There are extra eyelets included.

21) Optional: Install air brake hoses to dress up the end of the car. I have included airline brackets and hoses. A #65 hole in the airline bracket will be large enough for the hose to fit easily.

Painting tips

1) Wash the car and underframe in warm water and put aside to thoroughly dry.
2) Acrylic paints stick to almost everything, but if you're not sure, prime the model.
   Tip: Automotive spray can primer work well on resins. Apply in very quick light coats allowing time between so the paint doesn't run.
3) Paint the entire model box car red… trucks… everything.
   Tip: If your paint dries flat, apply a gloss coat so that decals can set properly.
4) Decal according to the provided illustration.
   Tip: The decals are thin and can easily break. You can tough them up by airbrushing a light coat of Microscale Liquid Decal film thinned 50/50 with TruColor thinner or similar.

   Notes:
   As build the cars were numbered 258000-258014. The series was renumbered 272014-272028 in 1949 when 11 cars were rebuilt with AB brakes. Four cars continued operating with K brakes into the 1970s. Check the product page for confirmed road numbers and brake configuration.
   a. Build date 04-1928
   b. Load and dimension data

   Load: Capy: 76000, Ld Lmt: 76300, Lt Wt: 56700 **Or** Capy: 82000, Ld Lmt: 82900, Lt Wt: 53100
   Dimension: IL 46-0, IW 9-0, IH 9-2 CU FT 3795

5) Reassemble and sit back and admire your work. Great job!