

RED CABOOSE
R-70-15 Mechanical Refrigerator Car
HO Scale
Kit Instruction Sheets

Please read the instructions completely before starting the kit.

Warning: This kit is not like previous kits offered by Red Caboose. The tooling was done overseas and a number of the parts are very close to or are part of the sprue making them very hard to remove. Red Caboose does not have extra parts so be very careful removing the parts. The parts that are hard to remove are marked with – *Warning* in the instructions.

General modeling tools are required to build this kit. As mentioned above, some of the parts are very close to or part of the sprue and need to be removed carefully. A new and sharp Xacto # 11 works well for removing parts but a number of parts will break if this type of cutting tool is used. It is strongly suggested that you use (purchase if you don't have one and you will never go back to the #11 blades for cutting parts off sprues) a Tweezer Sprue Cutter, Despruing Tweezer.

There are some very small parts on some of the sprues, please do not throw any sprues away until the model is completed. The sprues also contain a number of parts that are not used on this car, please ignore these parts.

Test fit all parts before gluing in place. In some places you may need to open up a hole (s) slightly for the pins of the part to fit.

* A single asterisk means that if you are building the roof walk removed version (RR-34516) skip this step and refer to the addendum sheet.

Before starting assembly, review the assembly of this model carefully and plan your masking and painting accordingly.

The step number also refers to the part number.

Step #1 Locate the floor, check for any flash or sprue fragment and remove.

Step # 2 Locate the frame, remove any sprue fragments, flash and the 4 odd shaped injecting vents located between the frame rails. Glue the frame to the floor being sure that the diesel fuel tank end is at the end that has 9 holes in the floor (A end).

Step # 3 From sprue # 1 choose either the Hydra-Cushion (3a) or the Keystone (3b) frame insert and glue in place in the center of the frame.

Step # 4 From sprue # 1 carefully remove the AB Brake/levers/rod assembly. This part may look a little gangly but when put in place does stretch out properly. Trim all vents and flash. Start gluing in place by gluing the AB brake to the floor, follow this by gluing the short rods in place and then the long rods working away from the AB brake. As you get to the end of the long rod you will note a pin on the rod with no corresponding hole (no comment on tool maker). You will need to drill a corresponding hole to glue the pin to the frame.

Step # 5 From sprue # 1 carefully remove the diesel fuel tank crossover & filter. Be sure to remove the large venting sprue from between the parts legs. Glue into the corresponding holes between the tanks; you will need to move the rod slightly to clear the holes.

Step # 6 From sprue # 2 carefully remove the distributing valve and mount to the floor as shown. Be sure that the holes on the side are pointing towards the frame.

Step # 7 From sprue # 2 carefully remove the air reservoir and piping. Remove any flash and venting parts. Glue in place on the floor, you may need to drill out slightly the two holes on the large cross bearer for the reservoir to fit properly. The two pipes glue into the top center holes in the distributing valve.

Step # 8 From sprue # 3 carefully remove the AB brake to Distributing valve cross over pipe and glue in place. You will need to slip this under the brake rod.

Step # 9 From sprue # 1 carefully remove the flexible airline and glue in place. The side with the small tab glues to the distributing valve.

Step # 10 From sprue # 1 carefully remove the 4 brake rod hangers and glue in place as shown.

With the exception of the weight and a few other parts to be added later, this completes the floor and underframe assembly, set aside for now.

Step # 11 From the 2 sprues of # 4 carefully remove a total of 4 large placards. Glue one to each end in the corresponding holes and one on each side to the left of the door in the corresponding holes.

Step # 12 From the 2 sprues of # 4 carefully remove a total of 8 door stops. Glue 4 to each side of the car in the corresponding slots. 2 to the left of the door and 2 to the right of the door about half way to the end of the car.

Step # 13 From the 2 sprues of # 5 carefully remove 2 doors that have the two parallel lines at the sprue end. Glue these doors in place. (Some kits may have the doors in loose).

Step # 14 From the 2 sprues of # 6 carefully cut a total of 2 small placards and glue in place on the sides to the left of the door under the large placards in the corresponding holes.

Step # 15 From the 2 sprues of # 6 carefully cut the upper door guide (15a) and the lower door guide (15b). Glue these in place on the side of the model.

Step # 16 From the metal parts bag remove the upper louvered panel. This is the part that has the 4 long legs. It goes on the side of the car at the 'A' end above the large opening. Test fit being sure the louvers are pointing down. Remove and put a little glue on the flat panel under where this part will permanently seat. Put the part in place and push on the part seating it well, while pushing, bend over the legs so that the part will sit tightly against the car body.

Step # 17 From the metal parts bag remove the screen that goes in the hole on the opposite side of the car. This mounts almost the same way with a very small amount of glue in the slots for the legs to slide into.

Step # *18 From sprue # 7 cut the roof walk (**Warning**). Very carefully remove this part from its sprue so that you do not cut the edge of the walk. Glue from one end to the other, Glue four roof walk supports at a time working towards the opposite end and letting the four dry thoroughly before moving on to the next four.

Do not glue the side walks in place.

Once the roof walk is completely dry, glue the side walks in place. By waiting until the roof walk is completely dry you will keep the roof walk and side walks from twisting.

This concludes the assembly of most parts that are not easily broken. From this point on, very detailed and delicate parts will be added to the model. Please be careful while assembling the rest of the model.

Step # 19 From sprue #3 carefully remove the 'B' end short *side* ladder and glue in place.

Step # 19a From sprue # 4 carefully cut two A & B end short ladders and glue in place on the right side of the end.

Step # *20 From sprue # 4 carefully remove the A & B *side* end tall ladders and glue in place on the sides.

Step # 21 From the 2 sprues of # 6 carefully remove the cut lever brackets, total of two. You will need to carefully cut the two half round ejector pins from the back of each part. Glue the cut lever brackets in place in the corresponding slots on the end of the car.

Step # *22 From the 2 sprues of # 4 carefully remove the A & B end tall ladders and glue in place on the ends.

Step # 23 From the 2 sprues of # 6 carefully remove the crossover step brackets, a total of six. Glue these in place as shown, 3 on each end.

Step # 24 From the metal parts bag remove the long grab iron and glue in place in the corresponding holes in the center of the 'A' end.

Step # 25 From the metal parts bag remove the long etched metal cross over step that does not have a square opening in it. Glue this in place on the 3 brackets on the 'A' end.

Step # 26 From sprue # 3 carefully remove the tall retainer valve and pipe. This is glued to the 'B' end just to the right of the tall ladder.

Step # 27 This is a multi part assembly. If you get frustrated just think of all the young ladies overseas who do this everyday and they aren't skilled model railroaders....

From the 2 sprues of # 6 remove the brake platform supports (27). Glue these in place.

From sprue # 8 carefully remove the offset brake mechanism (28) and glue in place near the top of the 'B' end. You will notice holes in the car end for the bottom two pins on the part, someone overseas forgot to add the pins.....glue the bottom to the body. Let this part dry completely before proceeding, maybe 30 minutes.

When you are positive the mechanism is dry:

From the metal parts bag remove the etched metal brake platform (29), do not glue in place but note that the square opening goes left of center when mounting and that the two notches indicate the rear edge of the platform.

From sprue # 3 carefully remove the long brake rod with chain on one end (30). At the chain end you will need to remove about half the length of the pin. Info only at this time, this pin will glue into the hole in the bottom of the offset brake mechanism previously glued in place.

Carefully thread the chain end through the hole in the etched brake platform and then glue the pin in the bottom of the brake mechanism. Follow this by gluing the platform in place on the platform supports with the etched notches to the rear as described above. Again, let this assembly dry completely before proceeding.

Do not glue the other two pins located on the back of the brake rod in place yet.

From the metal parts bag remove the other long etched cross over step (31), which has the square opening in it. Making sure the previous assembly is completely dry carefully slip the bottom end of the brake rod through the square hole in the crossover step. Carefully maneuver the two pins and the step into place, when done, glue all in place.

You have just completed the most trying portion of the assembly (try it with double vision!).

Step # 32 From the metal parts bag remove the medium length cross over step grab iron and glue in place in the corresponding holes on the 'B' end.

Step # 33 From sprue # 3 carefully remove the brake wheel and glue in place.

This completes both ends

Step # 34 From sprue # 8 carefully remove the refrigerator door frame (34a). From the metal parts bag remove the brass refrigerator door louver assembly (34b). Glue this into the frame using the small tabs on the rear of the part to help locate. When dry, glue in place.

Step #35 From sprue # 3 carefully remove the upper refrigerator door guide and glue in place.

Step #36 From sprue # 4 carefully remove the lower refrigerator unit door guide and glue in place.

Step # 37 From sprue # 3 carefully remove the ladder that goes over the refrigerator unit door unit and glue in place.

Step # 38 From the 2 sprues of # 9, carefully remove the complete plug door assembly rod/mechanism and glue in place on the door. Ignore the other rods on the sprue.

Step # 39 From the 2 sprues of # 9, carefully remove the door handle and glue in place on the door.

Step # 40 From the 2 sprues of # 6, carefully remove (these fly away) the lower door rollers, total of 4, and glue in place at the base of the door rods.

Step # 41 From the metal parts bag remove the 2 short grab irons. Glue one to each side of the car just left of the door.

Step # 42 From sprue # 2 carefully remove the bad order card holder. Glue this in place on the side sill in the corresponding holes to the left of the door on the non refrigerator unit door side.

The sides and ends are now complete.

Step # 43 It is now time to attach the weight to the floor. Locate the weight, add a little gooey glue to the back of the weight and mount to the back of the floor with the plastic bosses coming through the holes in the weight. Push down to get a good seat. Using a warm soldering iron carefully melt the plastic bosses down to give a secure hold to the weight.

Step # 44 The interior bulkhead is now glued in place using the corresponding holes on the floor at the 'A; end

Step # 45 From sprue 8 carefully remove the radiator unit and glue into the corresponding holes in the floor on the 'A' end.

Step # 46 Very carefully slip the floor/frame assembly into the body of the car making sure that the end that has 9 holes is at the 'A' end or refrigerator unit end of the car. You will need to pry open the body to get the floor/frame assembly in place. Once in place, glue.

Step # 47 In the truck bag you will find two short screws (47a), these are used for mounting the couplers. You will also find McHenry couplers. At this time mount the couplers of your choice using the two screws and the coupler box lids (47b).

From the metal parts bag you will find 2 coupler cut bars (47c). Once the couplers are installed you can install these cut bars. One end is glued to the coupler cut bar bracket and the other end goes in the small hole on the bottom of the coupler box lid.

Step # 48 From the 2 sprues of # 6 cut the corner stirrup steps, 4 total, and glue in place.

Step # 49 From sprue # 6 cut the 1 stirrup step that go under the refrigeration unit door and glue in place.

Step # 50 From the 2 sprues # 6 cut the stirrup steps that go under the large plug door and glue in place.

Step # 51 From sprue # 1 cut the brake fulcrum and glue on the floor at the 'B' end in the square hole.

Step # 52 From sprue # 1 carefully remove the 2 brake hoses and glue in place on the side of the coupler box in the corresponding holes.

Step # 53 Add the trucks of your choice. Two long screws are supplied to mount trucks.

One-piece roller bearing trucks with metal wheels and end bearing axle caps are supplied with this kit. It seems that some work will need to go into these to make them free rolling. It was found on samples of these kits that the area holding the axles in place was tight and needed a little filing to open up the journal area. It was also found that when the bearing caps were glued to the end of each axle too much glue was used resulting in not so free rolling truck. Bearing caps need to be added after the wheels are placed in the truck.

Step # *54 **Warning:** From sprue # 1 carefully cut the two-roof walk grab irons. One of these is very hard to remove and extreme caution should be taken to remove it. Once removed glue into place on the side walk in the corresponding holes.

Step # 55 From sprue # 3 carefully remove (she is a flyer) the roof exhaust stack. Glue in place on the roof at the 'A' end in the corresponding hole.

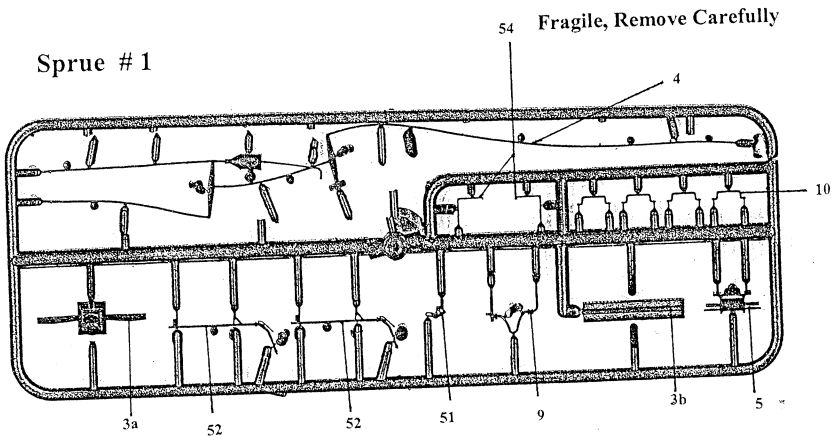
This completes your model. We hope that you will enjoy it for many years to come.

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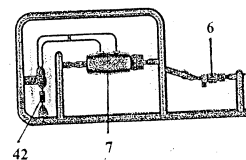
Red Caboose HO R-70-15 Sprue/Parts Locator

Some sprues are not shown since they only have one part
 RR-34515 & RR-34516
 June 25, 2009

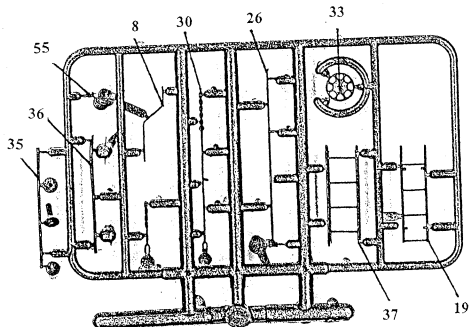
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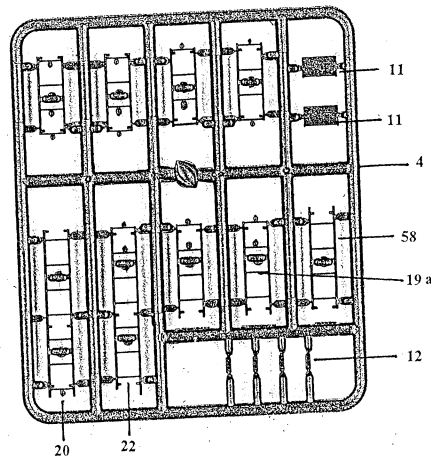
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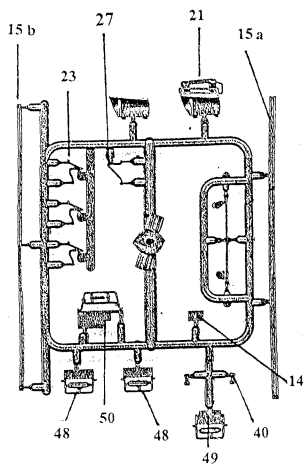
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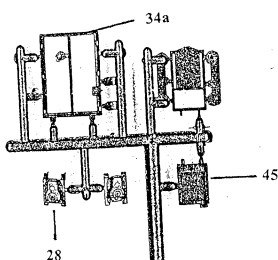
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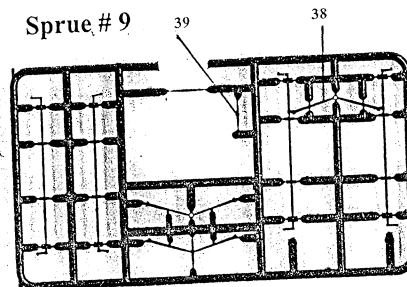
Sprue # 6



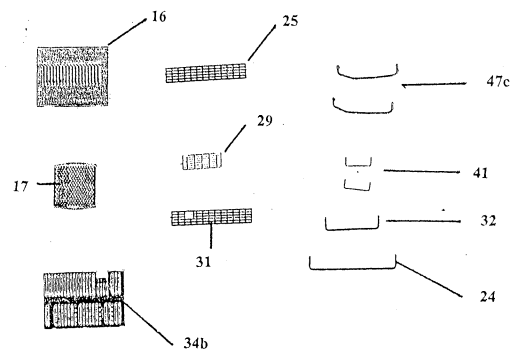
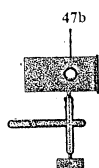
Sprue # 8



Sprue # 9



Contents of Metal Parts Bag



Red Caboose R-70-15 Reefer Drawings June 26, 2009

