

## KASGRO 370 TON, 12 AXLE, 48' STRAIGHT DECK FLAT CAR KIT ASSEMBLY INSTRUCTIONS



### Unpacking

1. Remove the bags and parts from the box. Only discard the bubble wrap, as all other material will be used to secure your completed model for storage and transport.
2. Do not open all of the bags of parts at once in order to minimize the chance any of the small parts getting lost. The bags are marked alphabetically in the order the parts will be used.

### Preparation

1. You will need a clean flat work area 3 to 4 square feet in size.
2. Tools required are a #1 Phillips screw driver, small file, small angled needle nose pliers, hobby knife, toothpicks, small container to hold water for decals, "setting" solution for decals, and optionally a magnifier and 400 grit wet/dry sand paper.
3. Spray booth or well ventilated and clean area to paint.
4. Area where parts can be set aside without getting dirty or damaged.

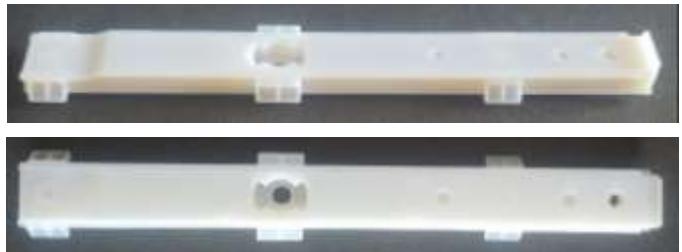
### Wheelsets

1. Remove the wheelsets from the packaging. For the best looking car, the wheelsets should be painted. Now is the time to paint as the wheelsets can **not** be removed from the trucks later like most other trucks you are used to.
2. We highly recommend washing the wheelsets in soapy water to remove any residue from the manufacturing process prior to painting. Thoroughly dry the wheelsets.
3. Paint the wheelsets. While brush painting is acceptable here, airbrushing works and looks much better. For a newer look, use a rust color with more orange hue. If you want an older look, use a darker rust color. There is no absolute right or wrong rust color.
4. Set aside for use shortly.



## Span Bolster Assembly

1. Remove the six long parts from Bag A.
2. Each Span Bolster is made up of a core, left and right side. Dry fit the sides to the cores to ensure all the joints are tight. In the unlikelihood of a gap somewhere along the joint, use a small file on the center core in the area of the gap to remove a small amount of material and dry fit the parts again.
3. Using medium viscosity CA apply a small bead along a side of the core. Use a toothpick to spread the CA along to cover the entire side.
4. Place the side on the glued core and apply pressure to the joint for about 8 seconds.
5. Repeat steps 2 and 3 for the other side of the core. This completes one span bolster.
6. Repeat steps 2 through 4 for the second span bolster.
7. The Span Bolsters are now ready for paint. Set aside and paint with the Trucks when they are ready to paint as instructed below.



## Truck Pre-Assembly

1. Remove the 6 center sections of the trucks from Bag A. 4 pieces have round centers and 2 have oval centers. The top of these pieces (right side of the picture) is the smooth side. The bottom will have a matte finish (left side).
2. 12 Truck Sideframes should remain in Bag A. Each plastic Sideframe already has 3 metal springs installed.
3. Dry fit Sideframes to each of the Center pieces to make sure the Sideframes are perpendicular to the Center pieces. If a sideframe is not perpendicular, remove it from the center piece, and use a small file to remove material from below the tab of the center piece.



4. Once satisfied with the fit of the Sideframes, remove them from the center pieces, and set 6 aside for now.
5. Glue one of the remaining Sideframes to a Center piece. Apply CA to the back of the Sideframe, and use a toothpick to spread into the cavity. Press the Sideframe on the Center part and hold for 8 seconds.
6. Repeat for the remaining 5 pieces.
7. Get the 6 Sideframes that you previously set aside. Move the glue bottle away from your work! Press the Sideframes onto the Centers **without** any CA. You are doing this just to make painting easier, which is now the next step.



### Paint Trucks and Span Bolsters

1. Painting the Trucks and Span Bolsters should be done with an airbrush only.
2. Any shade or sheen of black will work. If you want a new look, use gloss black. Grimy black is a good choice if you want a faded or heavily used look.
3. For best results and quicker painting, use a quick drying solvent based paint. We use and recommend Tru-Color paints.
4. A small rod placed through the center of the Trucks and Span Bolsters makes handling easy when painting. Use tape on the rod to get a snug fit.
5. This is also a great time to remove the Coupler Covers from the cardboard packing and paint them black as well. After the paint has dried on the coupler covers, paint the tips of the angled air line silver. Set the Coupler Covers aside in a protected place until needed at the end of the assembly process.
6. Apply any weathering to the Trucks and Span Bolsters at this time.
7. Once the paint is dry and cured, you are ready to assemble the Trucks to the Span Bolsters.

## Final Truck Assembly

1. Loosen the un-glued Sideframes from the Centers, but do not completely remove.

**IMPORTANT – You should practice Steps 3 – 5 without using glue a time or two before proceeding with Step 2.**

2. Find a small piece of scrap styrene or plastic (cardboard will also work). Deposit a small amount of CA to the material. You will use a toothpick to apply CA from here in the next steps.
3. Insert Wheelsets into the axle bearing points on the glued Sideframe. Move the opposite ends into the loose Sideframe. You will have to wiggle the Sideframe slightly, but try not to remove it completely from the Center piece. (The sideframes in the picture are for demonstration purposes, your parts will be painted.)
4. Hold the Wheelsets in place with one hand. With your free hand, use a toothpick to pick up a small amount of CA. Apply the CA inside the gap between the Sideframe and Center.
5. Press the Sideframe against the Center, making sure the Wheelsets are seated correctly in both Sideframes as the parts are pressed together.
6. The first Truck is now complete. Repeat for the remaining 5 Trucks.



## Assembling Trucks to Span Bolsters

1. At this time set aside the Center Trucks (the ones with oval centers). These get installed at the very end of the build.
2. Carefully remove the contents of Bag B. There should be 4 screws and 4 springs.
3. Place a screw through bottom of the Truck.
4. Place a spring over the exposed threads of the screw.
5. Align the notch in the top of the Truck to the notch near the end of the Span Boster.
6. Place the screw into the hole near the notch.
7. Turn the screw counter clockwise (loosening) while applying a little pressure to the screw until you feel a bump. Turn the screw clockwise (tightening) until the screw bottoms out into the Span Boster. The holes are pre-threaded, and this process is the easiest way to get the screw aligned with the threads. When the screw is seated correctly, the Truck will move about 1/16" between the Span Bolster and screw head. **DO NOT OVER TIGHEN THE SCREWS!** As shown in the picture, the springs are pushing the Trucks up against the screw heads, but the Trucks will push down against the Span Bolster leaving a gap between the screw and Truck center.
8. Repeat for the 3 remaining Trucks.



## Center Body Finishing & Assembly

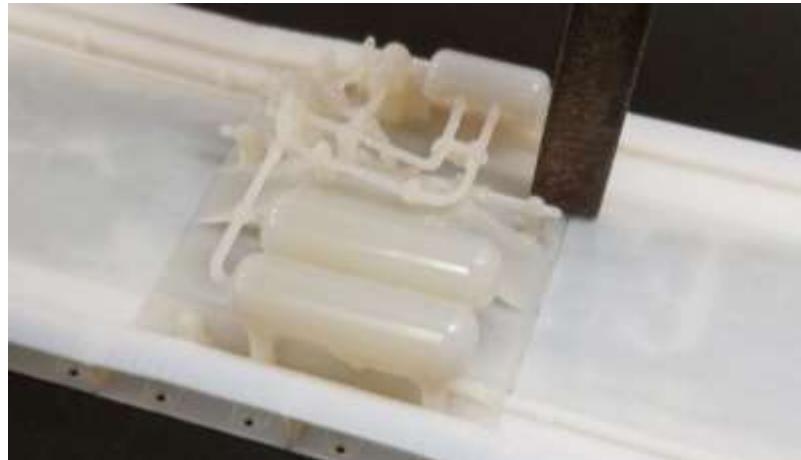
1. Un-wrap the Center Body. The magnets and weights are installed, sides joined to the center portion and rough sanded.



2. While the top of the body already has some finish work completed, you will want to apply a little more work before proceeding to assembly.
3. Spray primer on the top of the body to make any imperfections more visible. Priming is best accomplished with an airbrush, but the small hobby specific rattle cans will work too. Avoid the large hardware store rattle cans though.
4. Wet sand with 400 grit paper to remove the primer. To keep the top of the body flat, lay the sandpaper on a flat surface, and hold in place between thumb and middle finger. Place the body upside down and move the body back and forth with your other hand.
5. A small bead of CA can be applied to any gap and spread out smoothly with a toothpick. Wet sand the CA after 5 minutes to smooth the area out. The CA works much better than putty to fill small gaps.
6. Ideally you will wet sand away all of the primer. That way you know there are no low spots. However, if you apply CA to fill a spot on top of the primer, you will not be able to entirely remove the primer color.
7. After you are satisfied with the finish on the top of the body, remove the center detail part from the cardboard wrap.
8. Dry fit this part in the open section on the bottom of the body. The fit will be snug, but you can file the sides as necessary. Just be careful to not hit any of the detail features.
9. Apply CA to the recessed areas of the body and weight, then place the part back in place as shown.



10. Use a tool with a flat edge to push the part flush.



11. Pull one of the long screws from Bag E. Wrap a small piece of tape about 7/32" from the end of the screw.



12. Place the screw into one of the mounting holes. Twist the screw 1/8 to 1/4 turn, then back out the same amount. Repeat this action adding about 1/8 turn each time to slowly advance the screw until the tape touches the body. DO NOT FORCE THE SCREW. USE GENTLE AND SLOW ACTION TO ADVANCE THE SCREW.

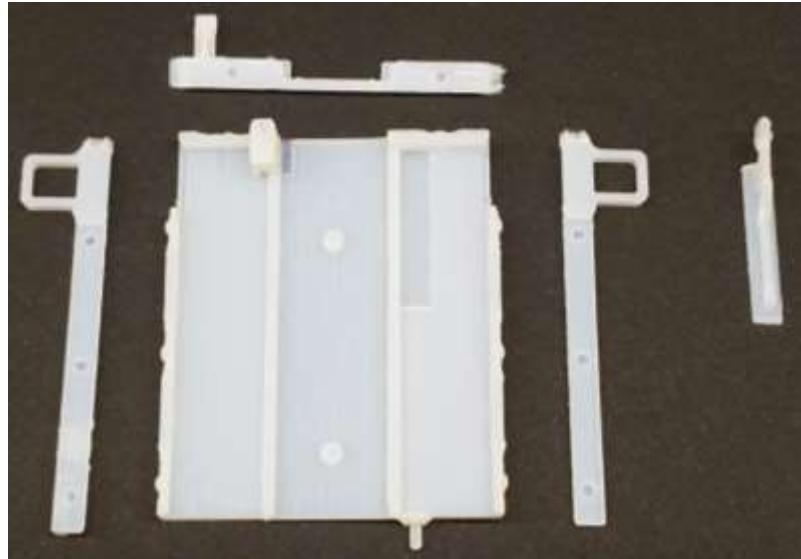
**FAILURE TO FOLLOW THESE PROCEDURES WILL RESULT IN A DAMAGED BODY.**

13. Repeat with the other end, then place the screw back in Bag E for later use.



## End Platform Assembly

1. Remove the contents of Bag C.



2. Dry fit the Sides and Ends to the Platform Cores. The top of the Side should be flush with the top of the Core. The joints should be tight without any gaps. If a gap does exist, use a small file to remove material from the side of the Core only.
3. Apply CA to one side of the Core. Use a toothpick to evenly spread the glue over the entire surface.
4. Press the Side on the Core and hold for 8 seconds.
5. Repeat for the End, then for the opposite Side.



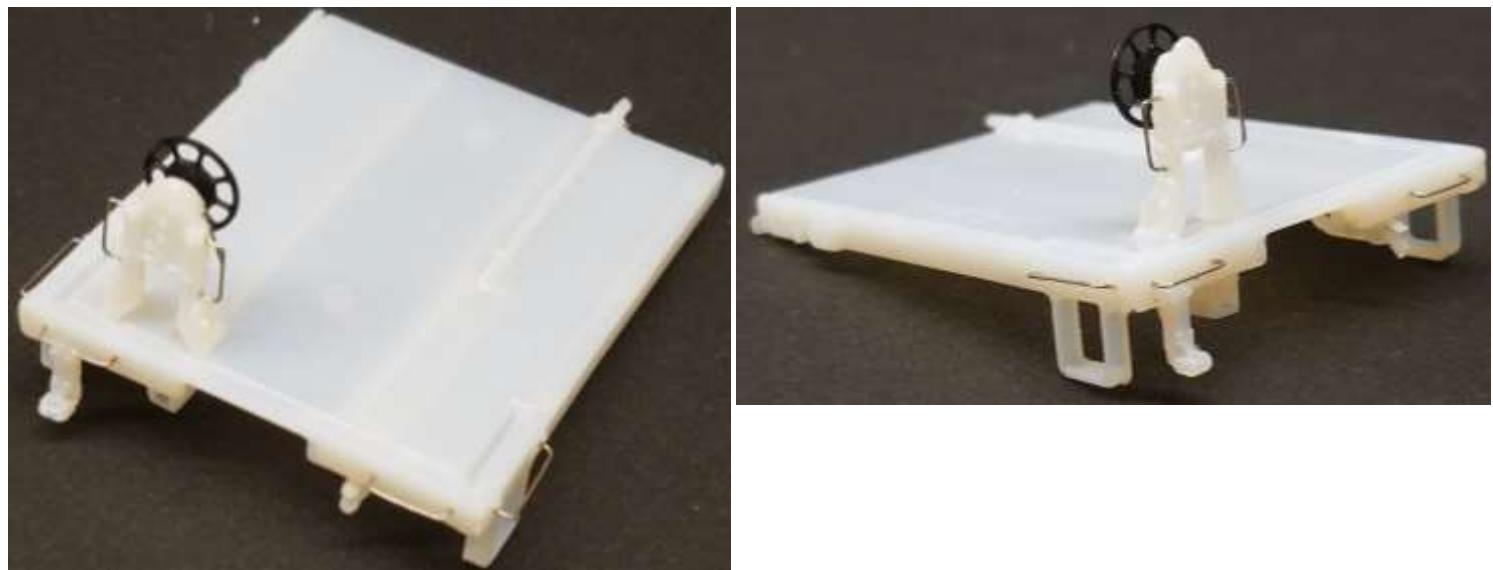
6. Remove one of the Lower Brake Pipes from the cardboard enclosure.
7. Dry fit the Brake Pipe into the opening on the bottom of the Core. You will need small needle nose or tweezers to do this.
8. Remove the Brake Pipe, apply CA to the Core, then press the Brake Pipe into the core with the same tool.



9. Dry fit the Brake Stand to the top of the Platform. The hole for the Brake Wheel should face away from the end of the Platform. It should fit into the slots. If not, use a small file to remove material from the inside of the feet of the Brake Stand. Do not glue the Brake Stand to the Platform yet, as it is easier to add the grab irons and brake wheel before gluing to the Platform.
10. Repeat Step 2 through 9 for the second Platform End.
11. Carefully remove the Grab Irons and Brake Wheels from Bag D.
12. Test fit the Long Grab Irons on the Platform Sides and Medium Grab Irons on the Ends of the Platforms. Bend to fit if necessary. If the mounting hole is not completely open, use a #78 drill bit in a pin vice to open the holes up.
13. Apply CA to the ends of the Grab Irons and insert into the appropriate locations on both Platforms.
14. Remove the flashing from the back of the Brake Wheels. Test fit the Short Grab Irons, Lever, and Brake Wheel on both Brake Stands. Bend to fit if necessary.
15. Apply CA to the back of the Grab Irons and Brake wheel and insert on the Brake Stand for each Platform.



16. Apply CA to the bottoms of the Brake Stands and insert into the slots on the Platforms.



### **Painting**

1. Because the plastic is somewhat translucent, we recommend that you prime the entire body and platforms before painting.
2. For the red color, we recommend Tru-Color Chinese Red, part number TCP-012, but any dark red color will be fine, especially if you plan to weather the car. Use the photos on our website or the photos below as reference.



## Apply Reflectors and Decals

Use the pictures on the following pages as reference for placement. Both sides of the car are the same, with one exception noted below. Make sure the A End is used on both sides of the same End Platform. Ditto with the B End.

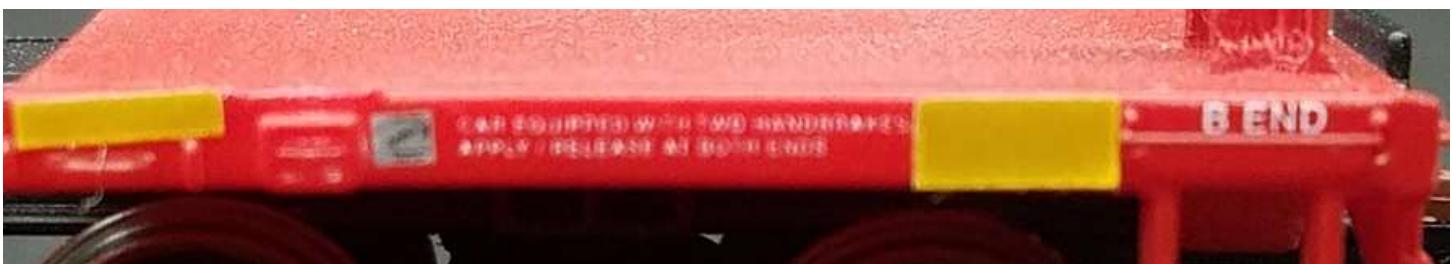
The decals are made by Microscale for Railfan Models, and go on just like any of their other decals. Cut the decal out with enough extra paper on one side so that it can be held with small needle nose pliers and not interfere with the decal sliding off. Dip the decal in warm water for 10 seconds and remove. Let set for 20-30 seconds, then slid the decal off the paper into position with a toothpick. Blot any excess water with a small piece of paper towel or small dry paint brush. Allow the decals to dry then brush a "setting" solution over the decals and let dry. A magnifier will come in very handy viewing, cutting, and placing the decals.

1. It is easier to place the yellow Reflectors from Bag F before placing the decals. We recommend placing the Platform between 2 small blocks of wood to hold the Platform vertical. Use two layers of paper towels under the blocks and Platform.
2. Place the reflectors on one side. Use a hobby knife to lift a reflector from the backing and apply to the car body. Place into position and burnish the reflectors with a toothpick. For more detailed instructions, go to [smokeboxgraphics.com](http://smokeboxgraphics.com).
3. Remove the Platform, flip it to the other side, replace between the blocks, and place the reflectors for that side.
4. Repeat for the other platform.
5. Lay the Center Body on its edge. You will have to use the small wood blocks to support the body.
6. Apply the reflectors to this side, then flip over and repeat for the other side. Now you are ready for the decals.
7. Apply the decals from Bag F to the Center Body sides.
8. Apply the decals to the sides and ends of the Platforms.
9. Apply the car number decals to the right side of each Truck side.
10. Apply a clear gloss coat to the sides, ends, and tops of the End Platforms and Center Body to seal the decals and reflectors.
11. Apply any weathering and/or dull coat at this time.

### End Platform Decals and Reflectors



Note the difference in reflectors between the two platforms on this side above, and two pictures below. Everything else is exactly the same between the platforms other than one uses the "A END" decals and the other the "B END".



### Center Body Decals and Reflectors

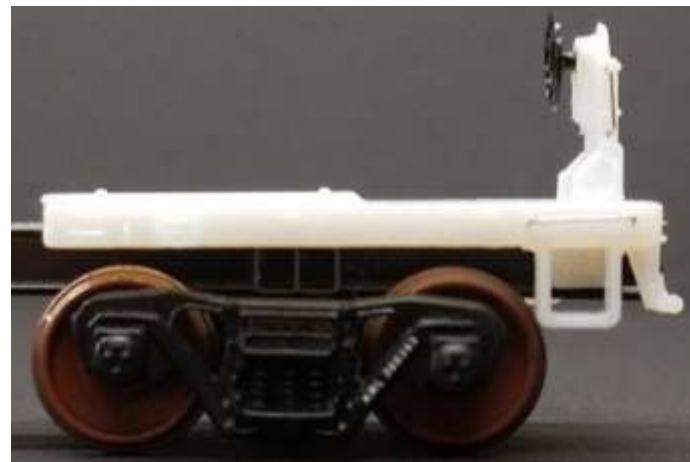
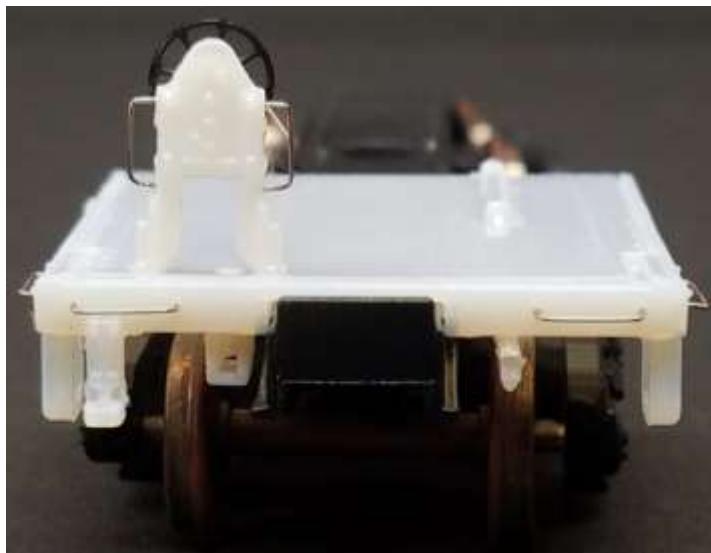
Both sides are exactly the same. There are three different road numbers to choose from. Use any of the numbers you wish. Just substitute that number in place of the one used in these photos. Note the decals on the trucks. The road number used on the trucks should match that used on the car.





## Final Model Assembly

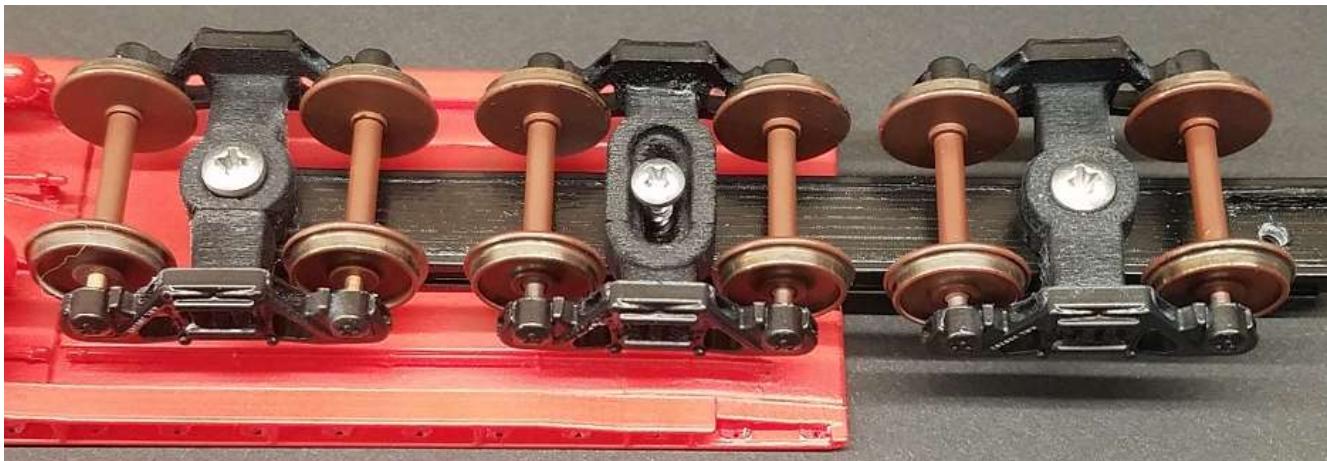
1. Before placing the Span Bolster on the Center Body, check the fit of the Platforms on the Span Bolsters. The Platform should be straight and level when viewed from the side and end. If the parts do not fit correctly as shown, then use a small file to remove material from the Span Bolster so the Platform fits properly. The two pins on the bottom of the End Platform will fit into the holes on the Span Bolster. There will be about 1/16 inch gap between the end platform and the raised edge of the coupler box. The Platform should be level front to back and side to side.



2. Lay the Center Body upside down of a paper towel.
3. Empty the contents of Bag E.
4. Now place one of the Span Bolsters on one end of the Center Body.
5. Take a ½ inch screw, push it through the bottom of a Center Truck, put a spring over the exposed threads, and insert the screw through the center hole of the Span Bolster.



6. Turn the screw counter clockwise (loosening) while applying a little pressure to the screw until you feel a bump. Turn the screw clockwise (tightening) until the resistance suddenly increases. When this happens, STOP turning. **DO NOT OVER TIGHEN THE SCREWS!** When the screw is seated correctly, the Truck will move about 1/16" to 1/8" between the Span Bolster and screw head. As shown in the picture, the springs are pushing the Trucks up against the screw heads, but the Trucks will push down against the Span Bolster leaving a gap between the screw and Truck center.



7. Repeat for the other end.
8. Now is a good time to test role the car on a track before proceeding. If the car does not track well or tends to derail, the offending truck(s) may be too tight. Loosen the screw 1/8 turn (45 degrees) and retest. You can repeat again if needed, but make sure the truck movement up and down does not go past 3/32 inch – doing so will not leave enough screw thread to be secure. If the spring force is too light (not pushing the truck down to the track if there are imperfections) you can carefully stretch the spring slightly to increase the spring pressure on the truck. Do this in very small increments and retest.
9. Once you are satisfied the car runs on the track properly, you are ready to mount the End Platforms.
10. With the car right side up, dry fit the End Platforms to the top of the Span Bolsters again.
11. Add CA to the bottom of the center part of the End Platform and place on the Span Bolster with light pressure for 8 Seconds.
12. Repeat with the other side, then flip the car over.



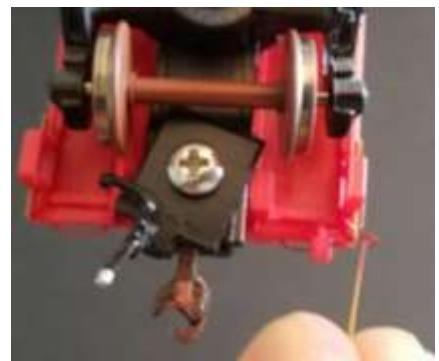
13. Place the  $\frac{1}{4}$  inch screw through the Coupler Cover and though a Coupler, and insert into the hole in the coupler box.



14. Turn the screw counter clockwise (loosening) while applying a little pressure to the screw until you feel a bump. Turn the screw clockwise (tightening) until the screw head is close to the Coupler Cover. The holes are pre-threaded, and this process is the easiest way to get the screw aligned with the threads. **Don't tighten completely yet.**
15. Angle the Coupler Cover to the left slightly as shown in the picture.



16. Place the Coupler Cut lever as shown on to the bracket of the Platform End.



17. The Cut Lever should fall through the hole in the bracket of the Platform. Do not force it through as the bracket might break.



18. Carefully twist the Cut Lever 180 degrees along the long axis of the car. The portion of the Cut Lever through the hole will twist to your right.



19. Move the long part of the Cut Lever to your left.  
 20. Line up the end of the Cut Lever with the hole on the Coupler Cover, and move the Coupler Cover to the right so that it is in line with the Span Bolster.  
 21. Tighten the Screw just enough that the Coupler Cover will not move. **DO NOT OVER TIGHTEN THE SCREW!**



22. Repeat Steps 13 through 21 for the other end of the car.



**Congratulations, you have finished! Now go enjoy your car on the track.**

Use the box and foam inserts the kit shipped in to store and transport your model. Carefully place the model into the rectangle cutout in the foam. Use other pieces of foam or bubble wrap to fill the space between the center car body and the supplied foam insert to hold the car securely in place.

If you have a generator or other load, it will need to be stored in a separate box.