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Jackson & Sharp Passenger Trucks (Sn2)

INTRODUCTION

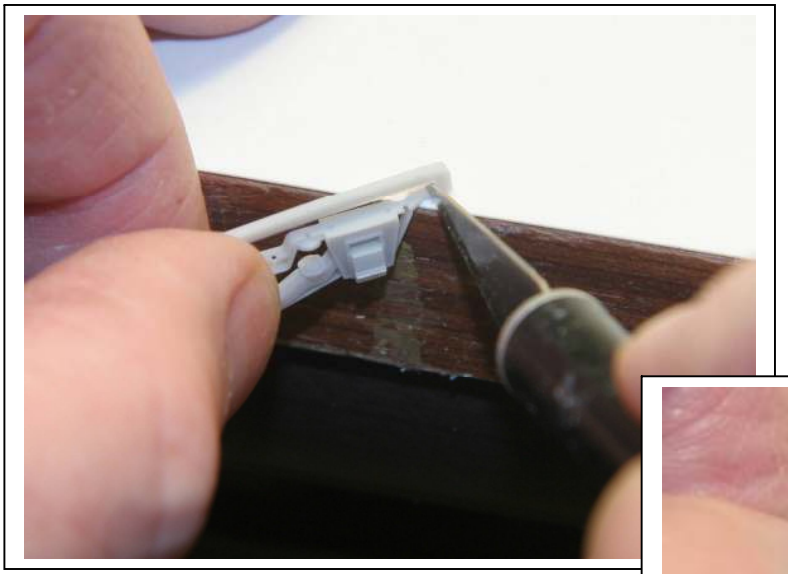
This HO scale kit was designed using 3D CAD/Solid Modeling and Rapid Prototyping technology based on information provided by Wes Ewell. This kit contains cast polyurethane parts made from tinted, industrial-grade resin to speed assembly and is considered a medium-level "craftsman kit" due to the small size and large quantity of parts. Only patience and basic hobby tools are needed to produce a top quality finished product. Tools required to complete this kit include a flat working surface, assorted small files, hobby knife with #11 blade, miscellaneous drill bits, medium- and fast-set CA glue, wire forming pliers, and fine-point tweezers.

WARRANTY: SMMW will replace any part(s) found to be defective due to manufacturing or shipping. Send the damaged part(s) to us for replacement and include $7 to cover USPS Priority return.

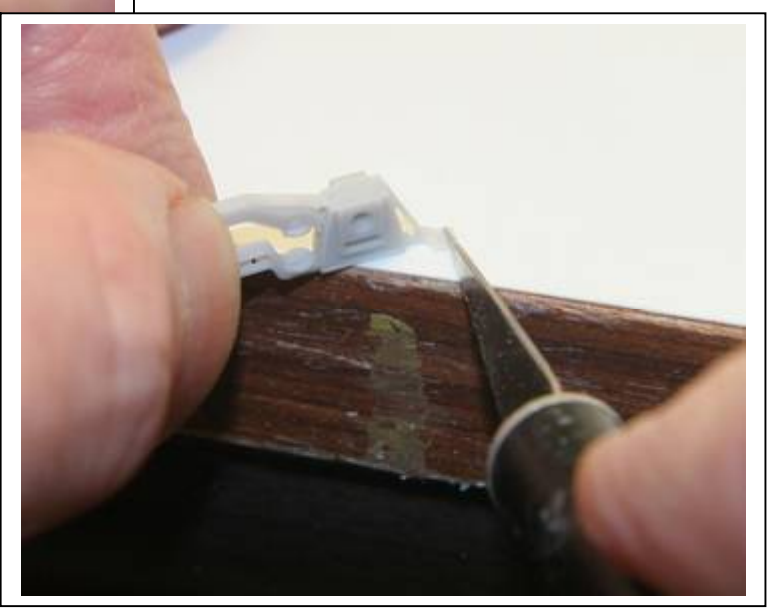
WARNING: This kit contains polyurethane castings. Although non-toxic in its cured state, dust created during filing and sanding may cause temporary respiratory problems if air circulation or ventilation is not provided. Be sure to work in a well-ventilated area. Wear a dust mask or respirator and safety glasses for maximum protection. Wash hands when finished, especially before eating. SMMW is not responsible for personal injury or health problems, short term or long term, resulting from the use and/or misuse of tools, adhesives, polyurethane dust from filing/sanding, castings, paints or any other product(s) used to construct this kit. This kit is recommended for builders over age 15.

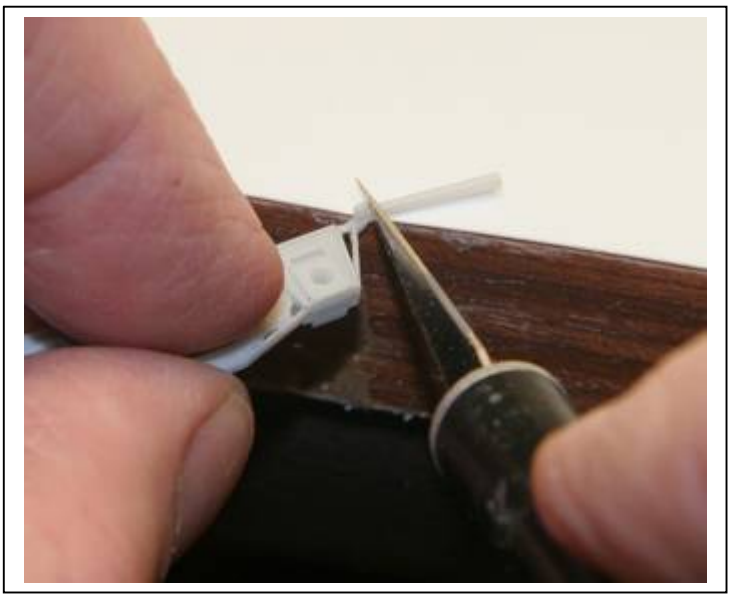
CONSTRUCTION

- Ordinarily, the first step is to clean off the mold release. In this case, because the sideframes are close to scale thickness in some areas and, consequently, very fragile, it's best to trim off the casting runners and deflash first. Use a brass-wire brush to remove the thin flash on the sideframes. The junctions between runners and castings are VERY fragile and easily broken, so follow the steps faithfully (*upper left to lower right, then next page*). Xuron flush-cutters (rail nippers) will also work.



NOTE: red-tinted urethane castings were used to help distinguish various parts during the assembly process. All production castings are grey-tinted.

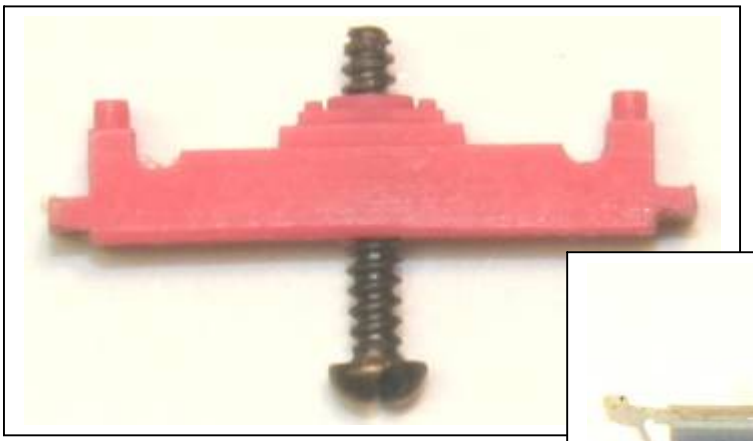


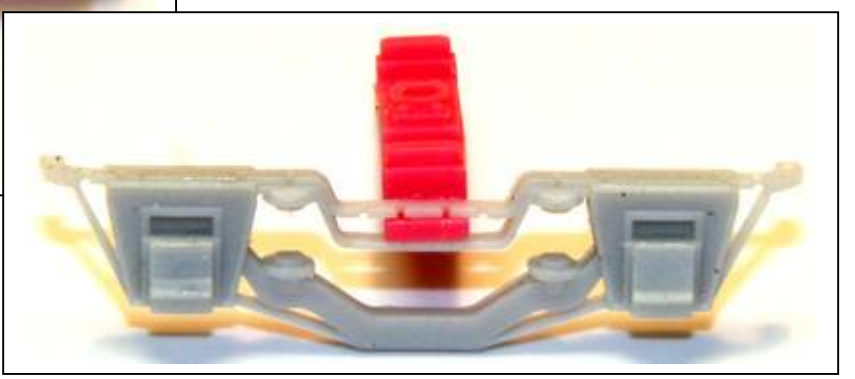


- *Carefully* scrub all castings, including the detail sheet, with a toothbrush and Pine Sol or a mild abrasive, like Comet or Soft Scrub, then wash thoroughly and let dry.

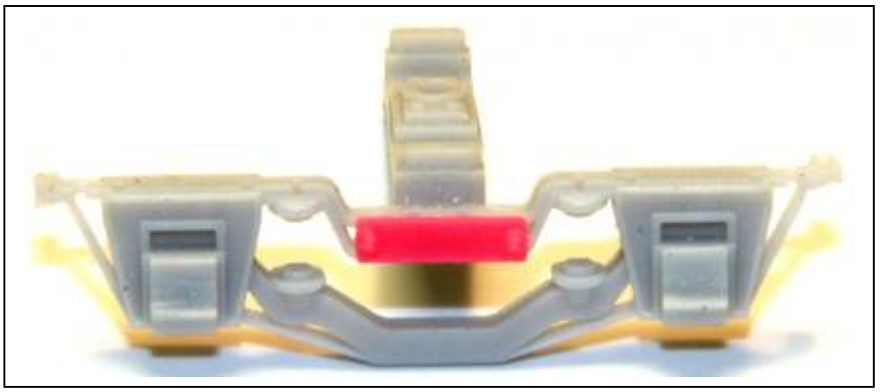
- In many of these images you'll notice open-ended slots along the top strap of the sideframes. This is a trade-off during the StereoLithography process when dealing with tiny holes in small spaces. The production castings have the slots at each end above the strap supports filled in which greatly increases working strength.

- Drill a #52 hole thru each bolster and test-fit with the screws provided. File a notch on the bottom of each end of the bolster and test-fit to the side frame to yield a snug fit but not too tight to cause the straps to flex outward. Use a medium-set CA to bond the bolster to (1) sideframe *only*. File off any portion of the bolster extending beyond the plane of the straps (there is a slight angle between the straps; they are not perpendicular).



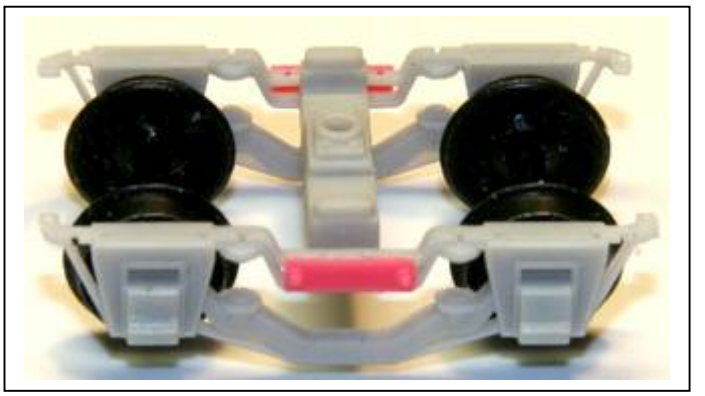


- Assemble (1) retainer plate (with a cast-on NBW detail on each end) to *only* the sideframe with a bolster glued to it, centered in both directions. You should now have (2) assemblies looking like the photo below.

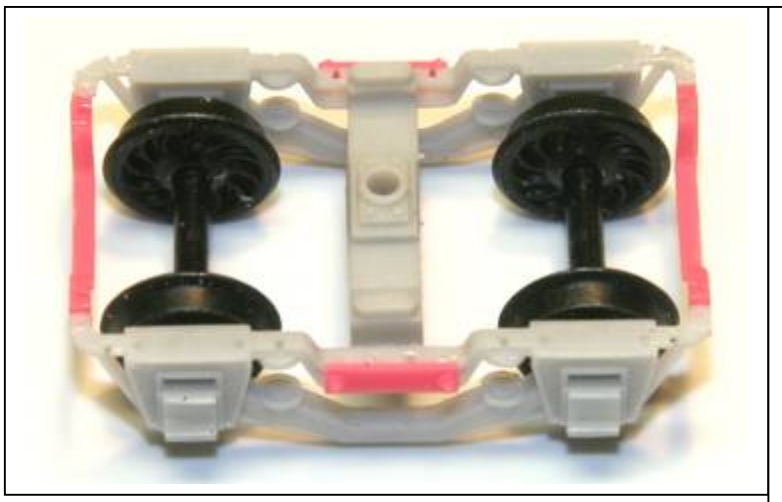


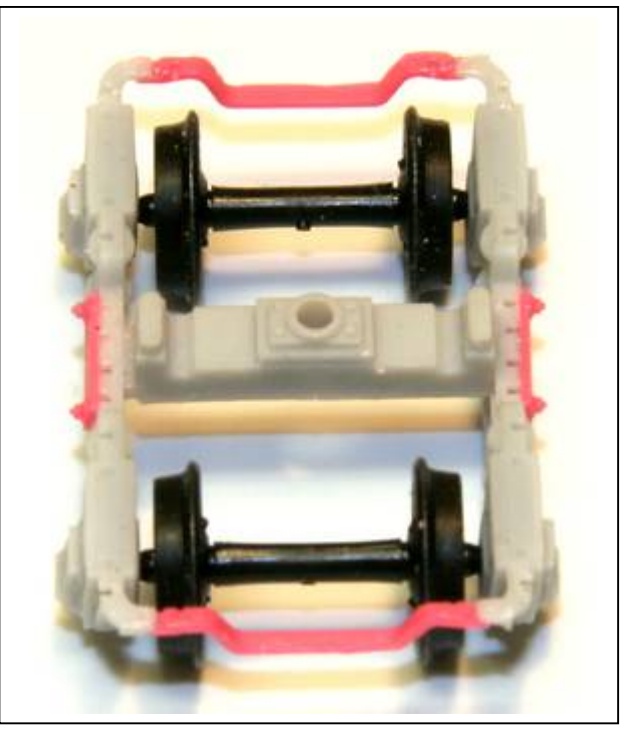
- Assemble both wheelsets and the remaining sideframe but do not glue. While holding the assembly together with your thumb and finger at the bolster/sideframe assembly point, spin each wheelset with your other hand to check for free-wheeling. If OK, apply a small drop of medium-set CA to the *inside* of the bolster/sideframe joint and place the truck assembly on level surface to cure. If not OK, deepen each axle hole slightly with a #61 bit and try again. When sufficient curing time has elapsed, roll the truck to verify the wheelsets still roll freely. Strengthen the bolster/sideframe joint with fast-set CA (fast-set is thinner and flows into small areas).

  CA the remaining retainer plates in place (photo below shows the truck to this stage).

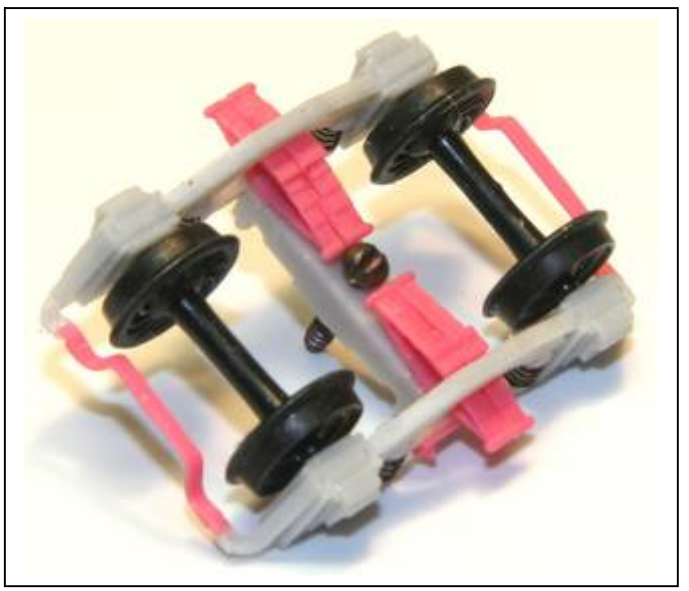


- Trim brake beams from the detail sheet and test-fit between the sideframes, noting there is a lap joint to provide a flat gluing surface versus having to glue end-to-end (which is MUCH weaker). Each end of the brake beam will likely require trimming to fit properly … extra material was included to allow for width variations. Brake beams fit *under* the sideframe tabs.





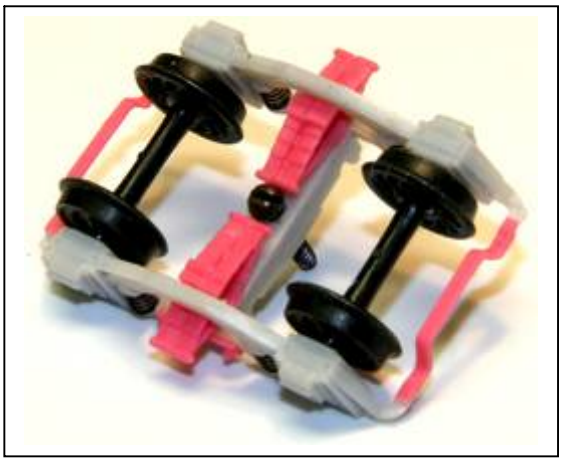
- Insert Kadee #637 springs on the locators as shown in the photo below and elsewhere. Sharp-tipped tweezers work well.



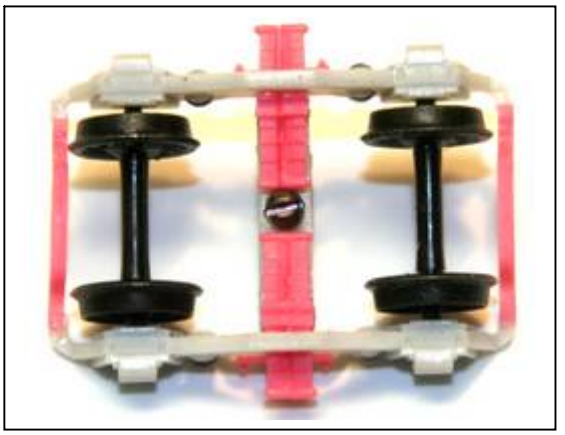
- The non-functioning leaf springs are composed of (2) dissimilar halves. One half is thinner than the other which has a raised center on one side that creates the gap between the springs when assembled. Carefully trim a matching pair from the detail sheet and lightly scrape the edges with a sharp No. 11 blade to remove the flash. Don't go overboard near the ends with the simulated bolt running thru the springs that was used to hold the assembly together. Doing so will cause a gap when the halves are glued together, as shown in a couple of photos (live and learn!).

  Use a medium-set CA to assemble the halves as some fiddling is necessary to line up the edges. Note there *is* a proper orientation to the spring halves besides one having a raised area and the other being flat: there are (2) mounting pads, (1) with a slot and (1) without. Be sure to match slot-to-slot and flat-to-flat. The slots allow for the spring "keeper" rod in other steps.

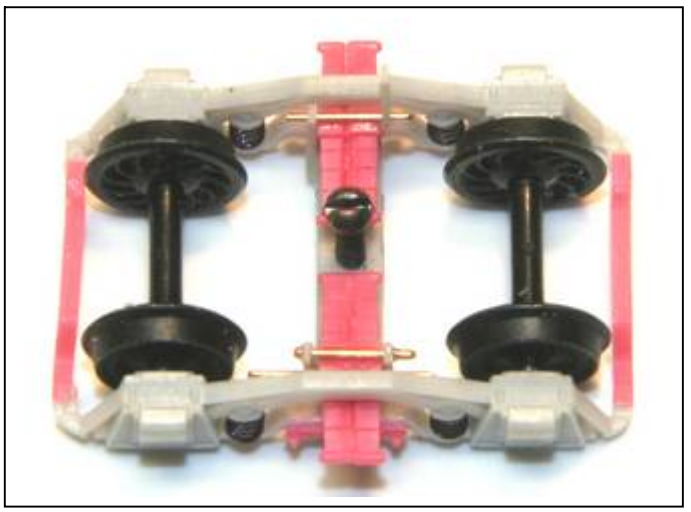
Note: *depending on how the springs fit between the sideframes, there may not be enough space for the screw head to drop thru the bolster after the 2nd spring is attached. To be safe, insert the screw before gluing the 2nd spring to the bolster. If the screw falls out afterward, no problem ... if it doesn't, then you've saved some filing later on.*

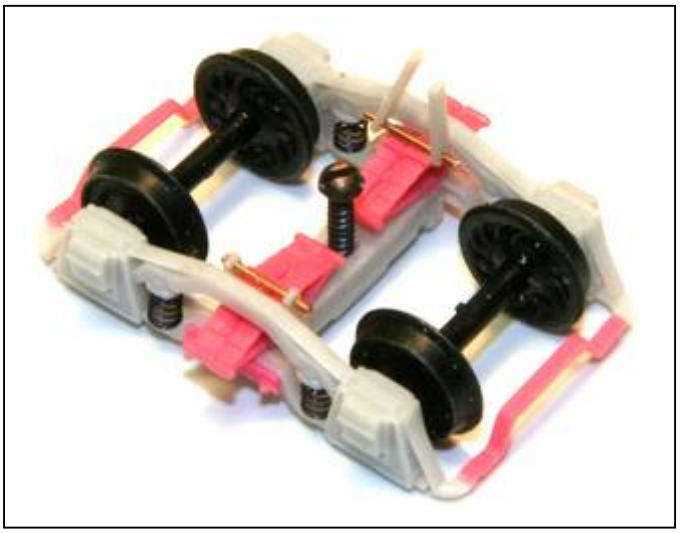


Assemble all (4) sets of leaf springs. Use medium-set CA to attach one at a time (flat surface) to the bolster bottom, slid as far outward as possible. The slotted pad should touch the inside of the sideframe and the spring should be centered across the width of the bolster. Apply fast-set CA to the pad/sideframe joint to lock the spring in place.



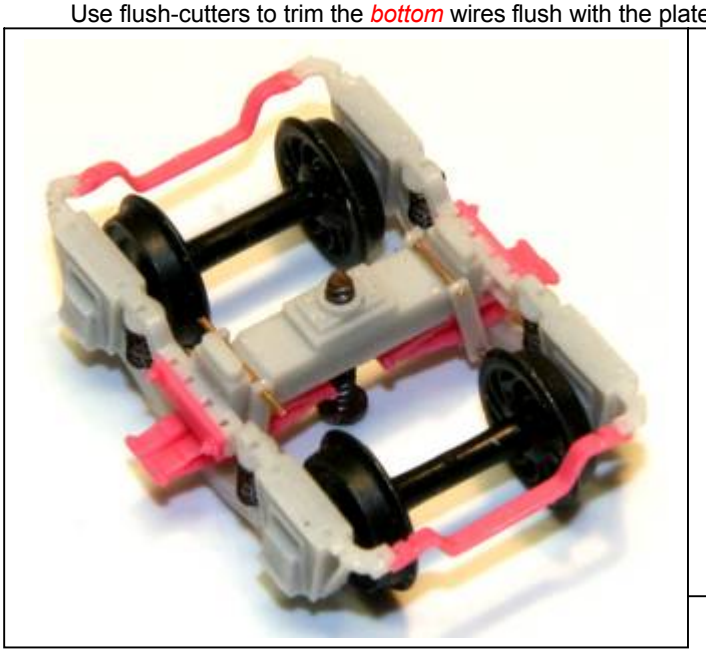
- Cut (4) 3/8" long pieces of .015" phosphor bronze wire. Place a small drop of medium-set CA across (1) leaf spring slot and position a wire in the slot, centered left to right. Locate the spring hanger plates on the detail sheet (rectangular plate with a hole in each end) and drill thru the holes with a #76 bit. It's easier to drill holes *before* removing the parts from the sheet. Assemble (2) plates to a wire, snug them up against the bolster using tweezers so they are parallel to the bolster and apply a small drop of fast-set CA to each plate/wire joint.

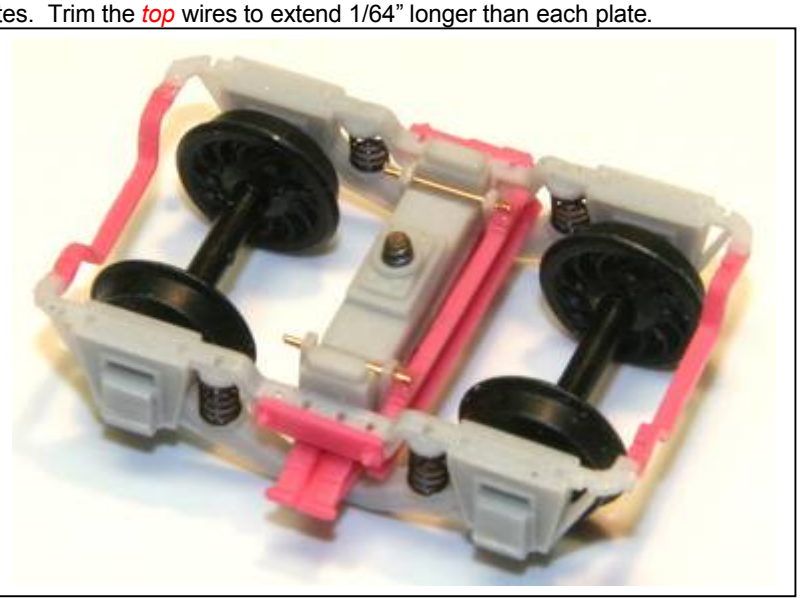




- Flip the truck over, rotate (1) plate toward the top, slide another 3/8" long piece of wire thru that plate and thru the mating plate. The wire will be located above another slot, which is a larger diameter than the wire, to allow some assembly variations. If properly positioned, the plates are angled inward toward the kingpin (screw). Use fast-set CA to fix each wire/plate joint.

  Use flush-cutters to trim the *bottom* wires flush with the plates. Trim the *top* wires to extend 1/64" longer than each plate.

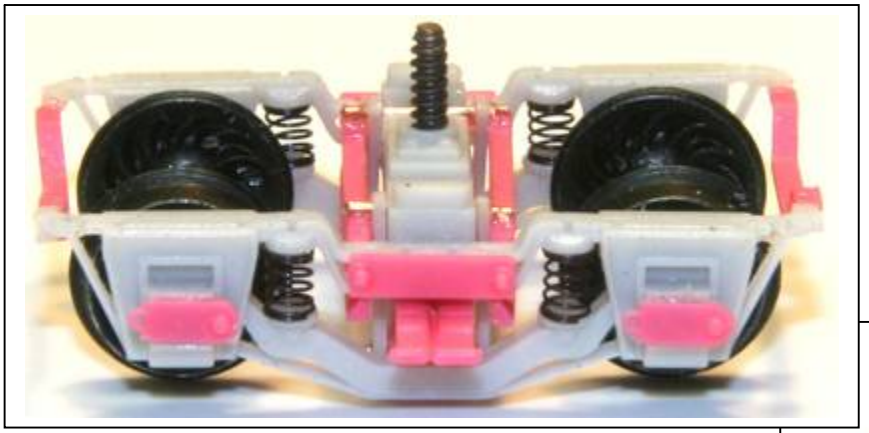




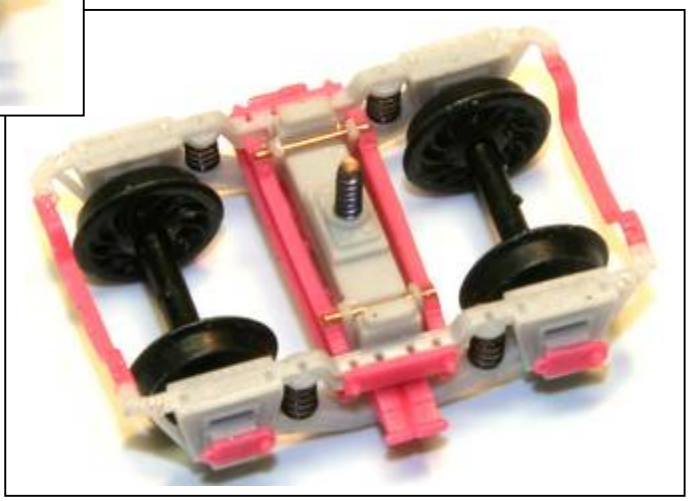
- Attach (1) C-channel support (long red part in upper right photo) to the wire extension on one end, then the other. Apply fast-set CA to each joint. Repeat for the other side.

- Add journal box lids as shown below, noting that as viewed from either side, the hinge bolt is always to the right.

- The completed truck is shown below minus the NBW details you may choose to add along the top and bottom straps. Due to very close vertical clearance between the wheel tread and lowest point of the sideframe, some material may need to be filed off below the lower beam and strap to avoid snagging in switches. If you choose to add NBW details, refer to Wes Ewell's prototype pix for location and use Grandt Line #5100 square-nut bolts (2 sprues are included). Drill a #74 hole at each locator hole along the top and bottom straps approximately 1/16" deep, trim off a NBW from the sprue, dip the shaft in a small puddle of CA and install.



- **Painting:** Urethane readily accepts lacquer-based and acrylic paints without priming. I suggest overspraying the entire assembly with a fast-drying, automotive grey lacquer-based primer, such as "Duo Cote" found in Auto Advantage. If you're not comfortable spraying from a can, spray some into a bottle, thin with lacquer thinner and apply evenly with an airbrush. This stuff dries to the touch in about 30 minutes and bonds very well to urethane and metal.



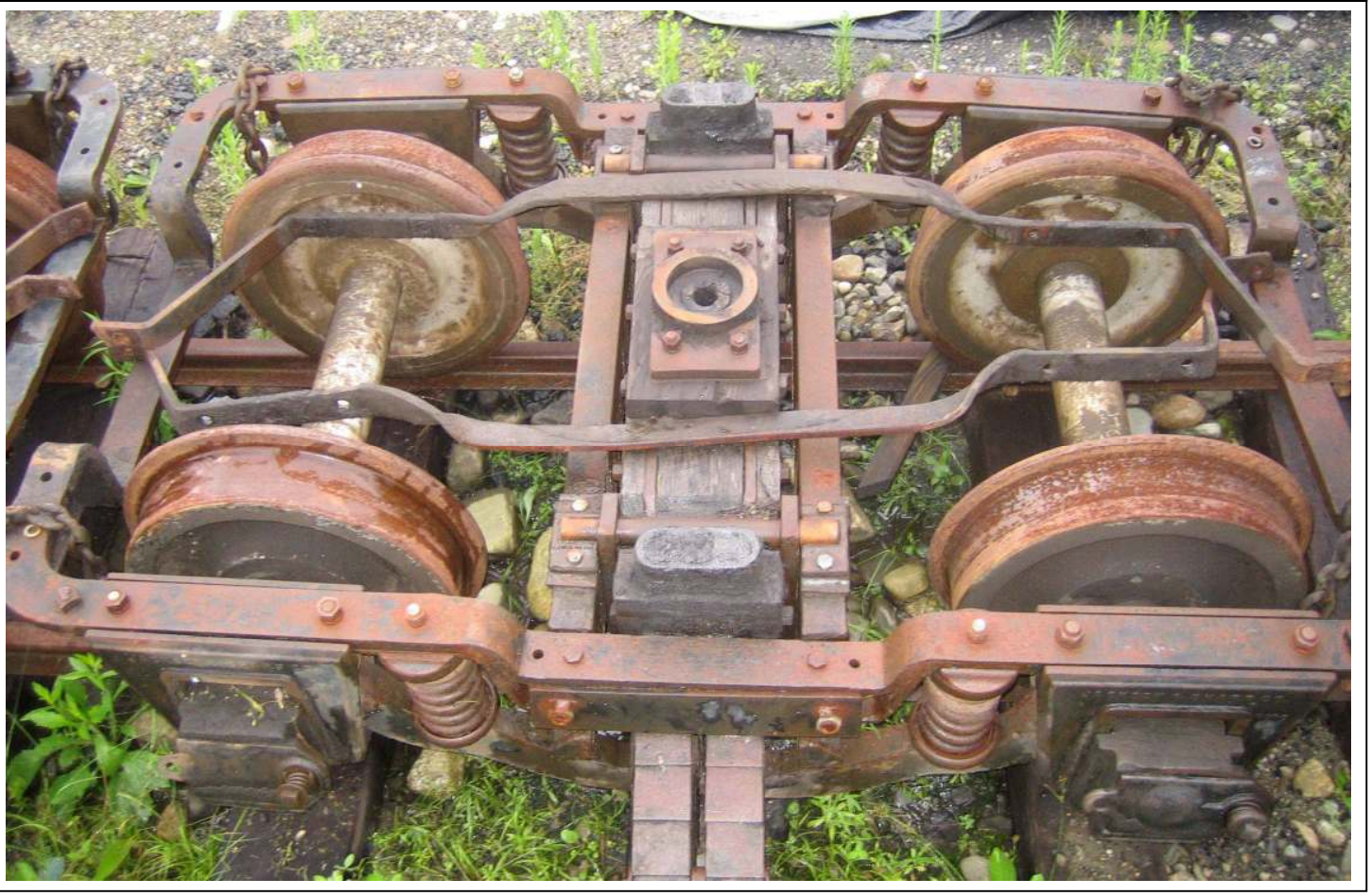
- **Weathering:** Refer to the prototype pix for weathering tips. In general, a light dusting of earth tones overall with some dry-brushed rust around springs and NBW heads will suffice.

  When all paint is dried, place a paper towel soaked with a little lacquer thinner over a section of track and run the truck back and forth across it to remove any paint built up on the treads.

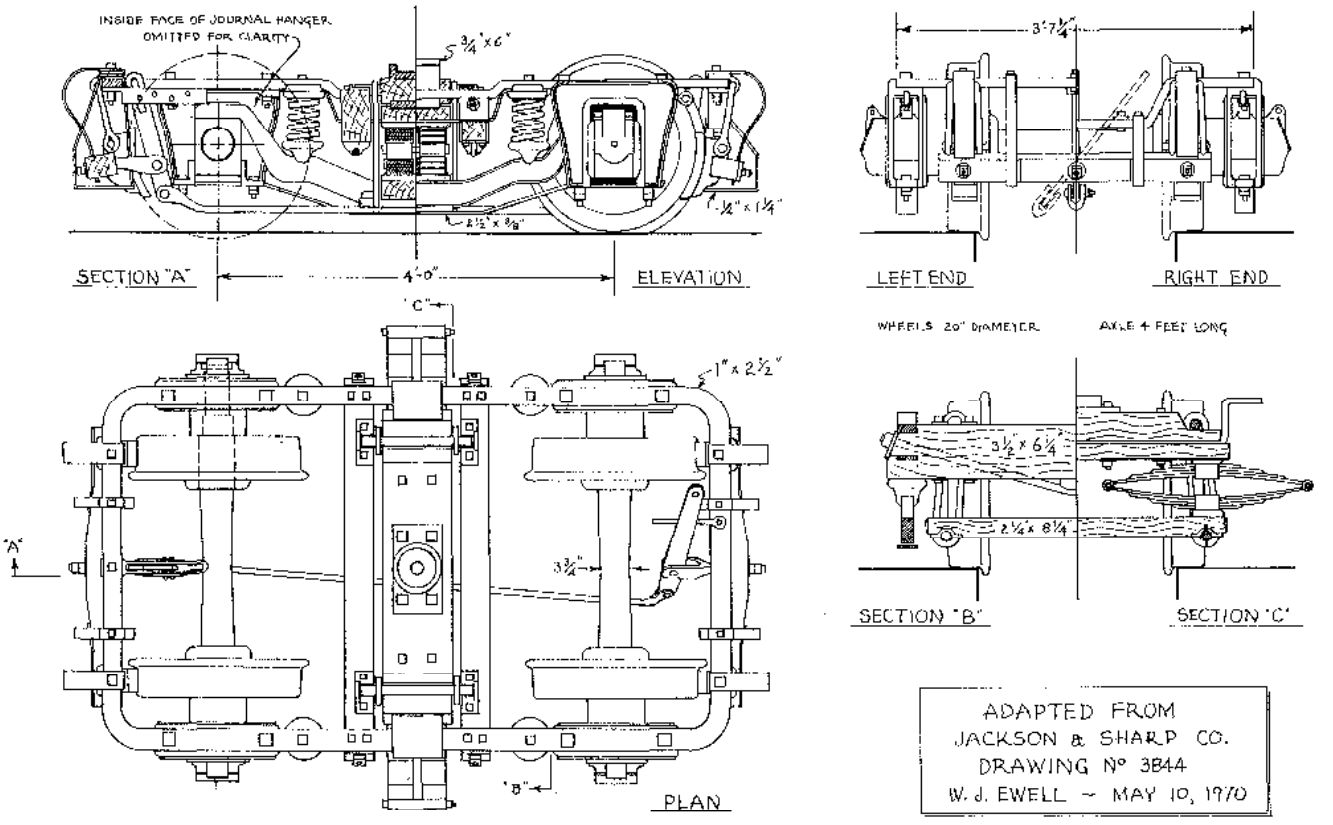
I hope you've enjoyed building this highly-detailed model of a classic passenger car truck. Contact me view phone or email if you have questions or suggestions for future products.

Jim King
February 24, 2010

ALL PROTOTYPE PHOTOS TAKEN AUGUST 10, 2008 BY WES EWELL




JACKSON & SHARP CO.



JACKSON & SHARP TWO-FOOT GAUGE PASSENGER TRUCK

SCALE: 3/4" = 1'