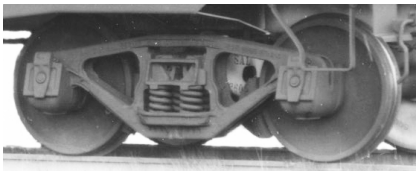
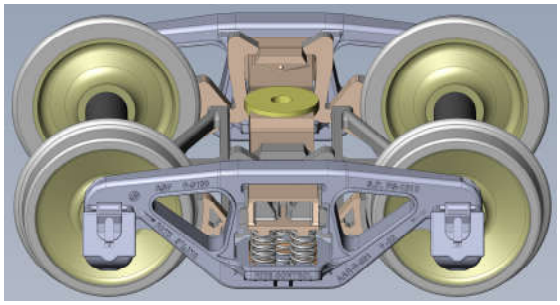
ASF A-3 50-ton "RIDE CONTROL" Truck
With Functional Springs and Brake Shoes/Beams
(S Scale) ● Smoky Mountain Model Works, Inc.
www.smokymountainmodelworks.com ● Asheville, NC, USA





These instructions are available in COLOR on the SMMW freight car trucks web page.

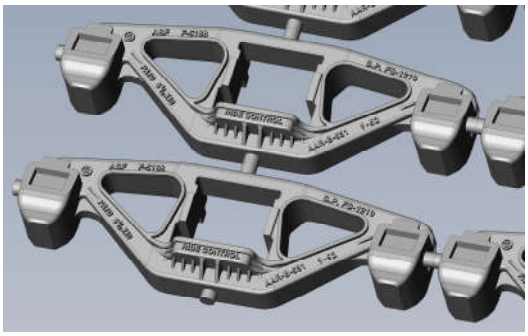
(Left) >> Solidworks 3D CAD screen shot of an assembled ASF A-3 50-ton "RIDE CONTROL" truck with 33" wheels, springs and brake shoes/beams. (Above) >> Similar 50-ton "RC" truck with 2nd style of journal lid on SAL 26025, a 1956-built PS-1 50' boxcar.

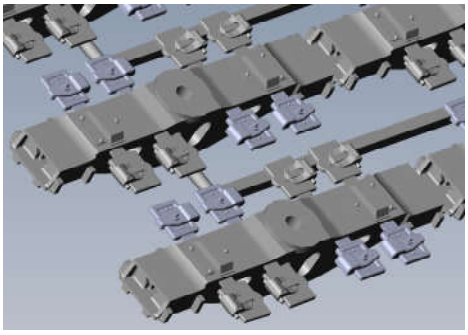
Each truck consists of hi-resolution, tinted, 3D printed sideframes, bolsters and (2) styles of side frames with cast urethane brake shoes and brake beams. Wheelsets are comprised of machined brass, bright Nickel-plated tires with injection molded ABS centers and telescoping brass tubing over solid axles.

Small details of 3D printed parts are fragile and care should be exercised when handling them. The (2) spring retainer tabs on the front edge of each bolster end are particularly susceptible to breakage due to rough handling.

Step 2: (Lower-left photo) Score the connection between sideframes with an X-Axto #11 blade then snap on the score. File the remaining "nubs" flat with sideframe surfaces. (Middle photo) Repeat scoring to separate lids and bolsters.

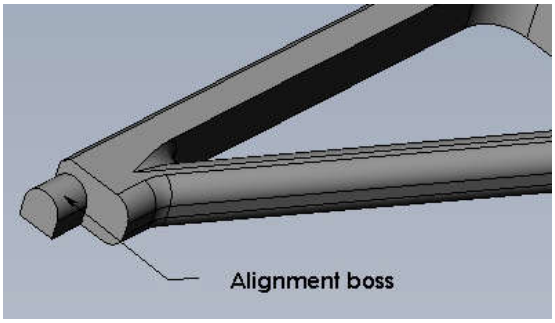
Step 3: Insert bolster into (1) sideframe, then both wheelsets, followed by 2nd sideframe. If axles rotate freely, including a little side-to-side motion, continue to spring insertion in Step 4. If there is sufficient side motion but wheelset(s) won't roll freely, then one or more holes may have some residue from 3D printing. Ream the culprit hole(s) with a #37 drill (you can use a 7/64" bit but the hole will be a "tad oversize", which places the bolster height lower and may affect coupler height). As a last resort, remove a small amount of material from each axle end. Reassemble and move to spring installation.

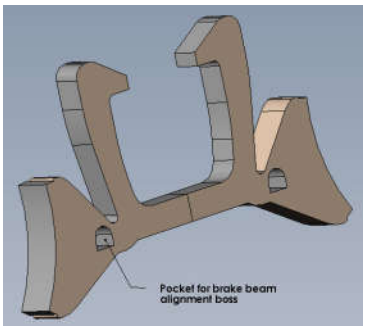


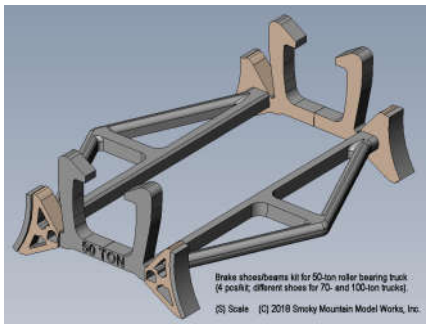


Step 4: (Far-right photo) Spring insertion is the same regardless of truck style (roller or plain bearing). Pick up a spring using VERY sharp tweezers with smooth jaws. Place over the middle boss in the 2nd row of the sideframe, compress it slightly, then align over the matching center boss in the bolster. Repeat for remaining (2) springs across the front (16 springs are included which provide (4) spares). No glue is required to hold springs in place.

Step 5: (3) CAD images below) Shoes and beams are cast on a sheet, then sawn off, leaving "fuzz" that's easily removed with a #11 blade. Shoes are cast in a semi-rigid urethane to reduce chance of breakage. Beams are cast in a rigid urethane because these are the "backbone" of the assembly and features are thicker. Beams have a "shaped boss" on each end used to properly orient them in each brake shoe casting. Use the #11 blade's tip to ream alignment hole behind each shoe, use slow-set CA to assemble the (4) pieces, then assemble to the bolster from the underside … the small hooks on the top of each brake shoe casting will flex slightly along the bolster sides, then snap into place once past the bolster. No glue is necessary to hold in place.







Step 6: New trucks have matched sets of journal lids. Lids of different designs were swapped during shoppings. Refer to prototype photos to determine styles and era. The smooth journal lid was used by the Southern Pacific and subsidiaries. The lid with bottom "tab" was more common. Select journal box lid style for your model and attach to sideframe using **SLOW-SET** CA or Walther's "GOO". Use sparingly so the excess won't squirt around the lid.

Step 7: 3D-printed parts and urethane castings accept acrylic and solvent-based paints. I recommend the latter because they dry flat, ready for weathering and tend to cover surfaces using less paint. Use thin strips of "painter's blue tape" to cover wheel treads. New wheelsets and axles would be rust-colored (by law, wheel faces cannot be painted to avoid hiding cracks). Well-used sideframes have traces of the original carbody color with a heavy accumulation of road dirt. Painting the truck sideframes and bolster to match the carbody followed by "Grimy Black", "Earth" and "Grime" to highlight details and sideframe text yields a typical appearance.

Lubrication is not required to achieve long life or good rolling qualities once installed on a car. If lubrication is desired, Marvel's "Mystery Oil" (sold in hardward stores) or light bearing oil, such as "Trinity Royal Oil" (sold at Hobbytown USA in the RC section) are good choices. Pick up a tiny drop with a length of wire and place behind each journal box.