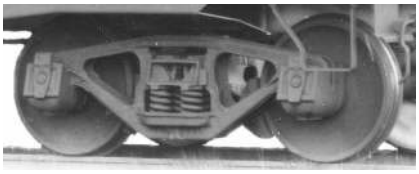
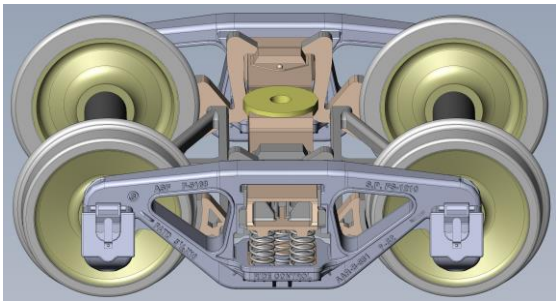
ASF A-3 50-ton "RIDE CONTROL" Truck
With Functional Springs and Brake Shoes/Beams
(S Scale) ● Smoky Mountain Model Works, Inc.
www.smokymountainmodelworks.com ● Asheville, NC, USA





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.

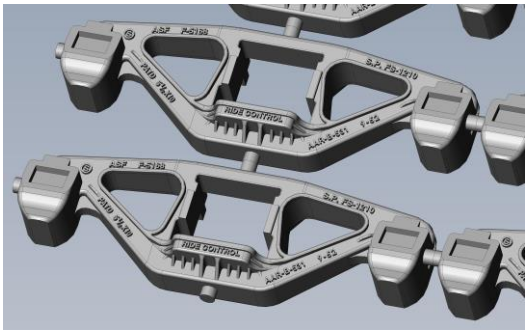
Each truck consists of hi-resolution, tinted, 3D printed sideframes, bolsters, brake beam/shoes and (2) styles of journal lids plus (15) Kadee 637 springs. Wheelsets are comprised of machined brass, bright Nickel-plated tires with injection molded ABS centers and telescoping brass tubing over solid axles.

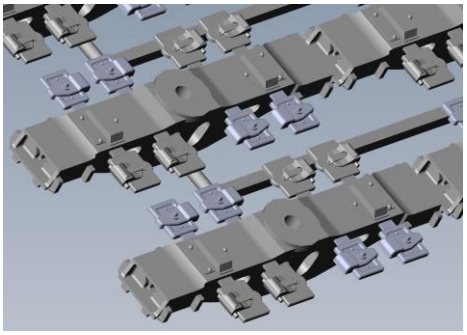
Small 3D-printed features are **FRAGILE** and care should be exercised when handling them. The (2) spring retainer tabs on the front edge of each bolster end are particularly susceptible to breakage due to rough handling.

Step 1: (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 2: Clean out each axle hole with a 7/64" drill bit. If you bore too deep, the drill tip will break thru the journal lid recess which ***CAN*** be covered with a journal lid if not excessive. Insert bolster into a sideframe, then both wheelsets, followed by 2nd sideframe.

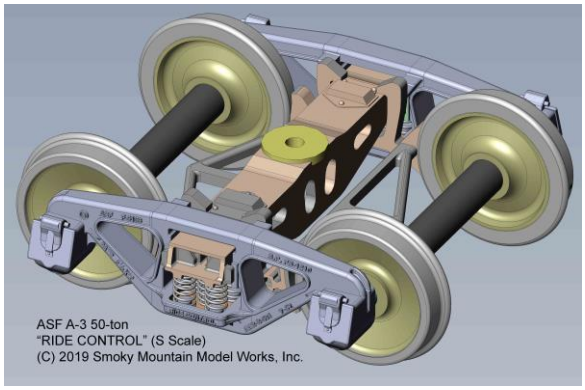
Step 3: Test-fit the bolster and sideframes to ensure the bolster slides smoothly. Remove the parts and paint using acrylic or solvent-based paints. Acrylic may require primer; lacquers do not. I recommend the latter because they dry flat, ready for weathering and tend to cover surfaces using less paint. 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 so cracks can be seen). Well-used sideframes often 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.



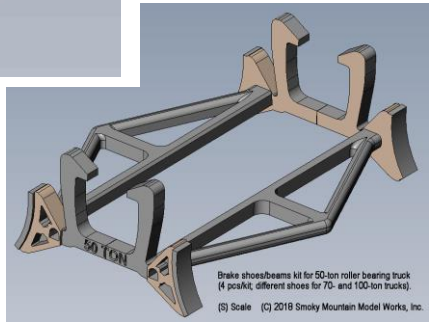


Step 4: (Far-right photo) Spring insertion is the same regardless of truck style (roller or plain bearing). (3) springs are required for each sideframe to remain perpendicular to the bolster. If you do not install the inner spring, the sideframe will tilt outward at the bottom and bind the axles. Insert the inner springs first, then the (2) front-row springs. Pick up a spring using VERY sharp tweezers with smooth jaws. Matching alignment bosses are on the bolster and inside the spring well. **THERE ARE NO SPARE SPRINGS** so if you lose one, replace with Kadee #637. Looping a piece of thread thru **ONE** spring coil before picking up with tweezers greatly reduces likelihood of losing one or more during assembly. No glue is required to hold springs in place.

Step 5: Shoes and beams are now a single, 3D printed part to greatly reduce assembly time (see CAD image at right). From the bottom of the assembled truck, press this piece over the bolster until the upper tabs "snap" on top of the bolster. No glue is required to hold the part in place. Be sure that the part clears the spring plate area on the sideframe's bottom.



Step 6: New trucks have matching 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" (see SAL photo) was more common. Select journal box lid style for your model and attach to sideframe using medium-set CA. Use sparingly so the excess won't squirt around the lid.



Lubrication is not required to achieve long life or good rolling qualities once installed on a car. If lubrication is desired, use Graphite powder commonly found in the RC plane section of hobby shops ("P84" by Perfect company is what I use). Oil is not recommended because it attracts dirt and can prevent free-rolling axles over time.