

Add Realistic Rivets to Your Models

– by V.S. Roseman

Model photos by the author

Have you ever wondered why older rail-road rolling stock has all those rivet heads? How the prototype applied rivets? How can they be modeled? Continue reading and all will be revealed.

This car shop, modeled by Victor, shows a number of crews busy at work hot-riveting cars. Victor needed to perform plastic surgery on the riveters because no commercial riveter figures were available.



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Figure 1

Figure 1: For many years, starting in the early days of steel rolling stock, cars were built on either a bar underframe or fish-belly girders and riveted together. Riveted car construction continued until the early 1930s when welding replaced riveting on passenger cars.

A forge, often oil fired, heated rivets red hot. A worker adding or repairing steel side sheets on a car used tongs to take a rivet from the forge and toss it to a second worker who caught it in a metal cup, retrieved the

rivet with tongs and placed it in a hole through two overlapping steel side sheets on the car. A worker with a pneumatic hammer would pound on the rivet, while on the opposite side of the steel sheets another worker held a bucking bar with a die on the end to form the red hot rivet shank into a domed shape.

The rivet shrank as it cooled, pulling the two pieces tightly together making a strong joint.

Individual body panels were sometimes replaced on boxcars or other rolling stock, as

evidenced by photos in *Trains and Railroad* magazine showing cars lettered “NORFOLK WEST AND ERN” or with the huge billboard letters “B&-” on a Baltimore and Ohio car. Sometimes single or double sheathed wood-sided cars were upgraded with steel sides.

This scene represents a busy outdoor repair shop working on various boxcars. The gantry in the rear was used to lift bodies on and off car frames.

Model Rivets

Simulating rivets on model trains has always been a problem. Until the 1950s, sheet metal toys and models required complicated equipment to stamp rivets into bodies’ sheet metal.

When die-cast models appeared, they had rivet heads built into their tooling. But die-cast model trains often lacked fine details – they were difficult to cast and the steel dies needed were very expensive.

Die-casting was succeeded by injection molded plastic models in the 1950s – the tooling was very similar to that used for casting in metal. In some cases it was converted from metal to plastic casting. Although injection-molding plastic required very expensive tooling, tens or even hundreds of thousands of units could be made before the mold wore out.

Other model train manufacturers used high quality printing to lithograph rivets on train models. The Marx company that made inexpensive 027 trains in the 1950s, had a deluxe line of freight cars that had printed rivets and were very realistic when seen from normal viewing distances.

W.K. Walthers, manufacturer of the most complete line of heavyweight passenger cars, made kits with wood roof and floor, die-cast ends, and thin stamped steel sides with all the windows pre-cut for the modeler.