Cleaning Plastic Car Wheels

George Booth

We have a pretty good understanding of the nasty black gunk that collects on our plastic car wheels. Hopefully, metal wheels are not prone to collecting this stuff as much as plastic wheels. At least I hope so since I just upgraded 200 cars with Intermountain wheel sets at no small cost.

However, I still have another 100 cars waiting for upgrading, and I want to run some of them so I need to make sure the wheels are clean to avoid contaminating my new metal wheels and engine wheels. I've tried various laborsaving ways of cleaning plastic wheels to no avail. My first attempt was to use an ultrasonic cleaner. This didn't remove the gunk and left me with some rusty axles. I've tried various chemicals but nothing seemed to dissolve the gunk. I've always resorted to mechanical means.

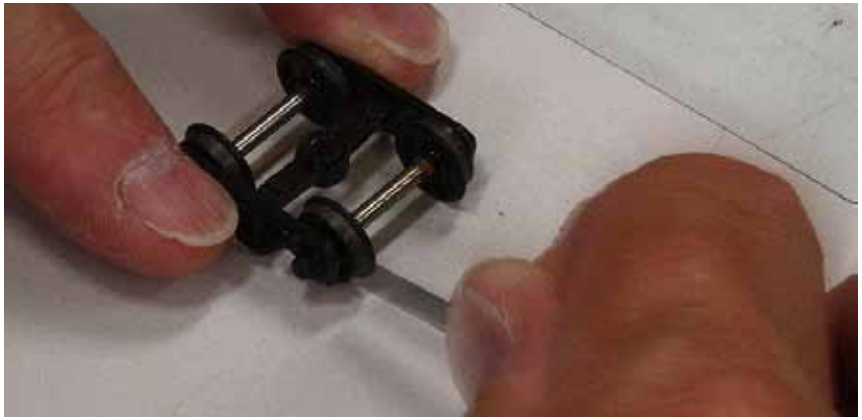
As Used in the Great Western Wheel Shop

The tools required to clean the wheels are very simple and inexpensive. The only exotic thing is a piece of cowhide used as a tough work surface with good grip. I also hand-made a special wheel gauge to make sure the wheels are properly spaced and centered on the axles. The tools needed are a grippy work surface, a small screwdriver, a tongue depressor, a piece of sandpaper, a sacrificial Athearn truck frame, and a wheel gauge.

Here is a set of dirty wheels from my collection. I've noted that as the gunk builds up and gets thicker, it changes the geometry of the wheels; and they become prone to derailing, especially on turnouts. When a car derails, the first thing I check is for dirt on the treads.

The Wheel Lathe

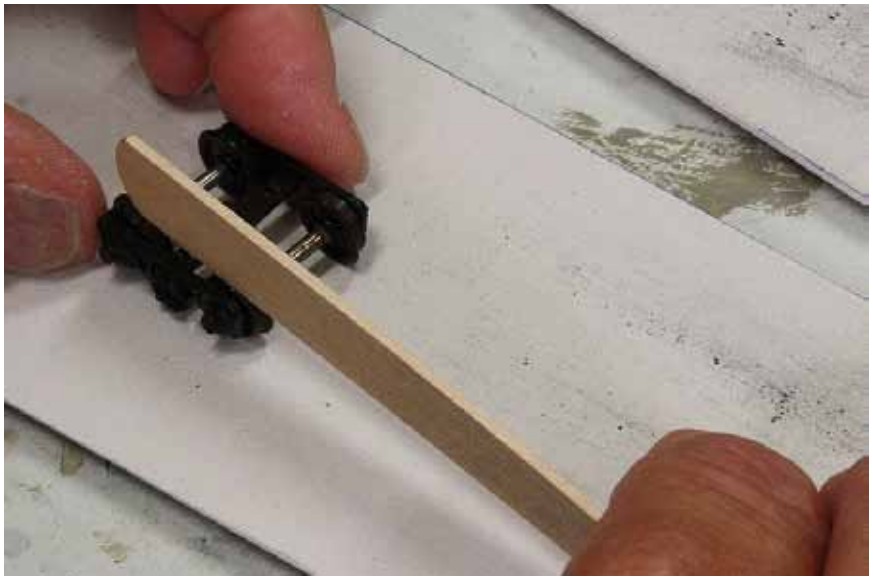
The first step in cleaning the wheels is to use a "lathe" to shave off the majority if the gunk. I use an old Athearn truck frame to hold the two sets of wheels. The tip of the small screwdriver acts as a gentle cutting tool to chip of the gunk. Hold the tip of the screwdriver against a wheel tread and roll the truck back and forth to shave the gunk off. I'm using an old piece of linoleum here instead of the leather since it photographs better. The linoleum doesn't last very long nor is it as grippy as leather, but it will work in a pinch.



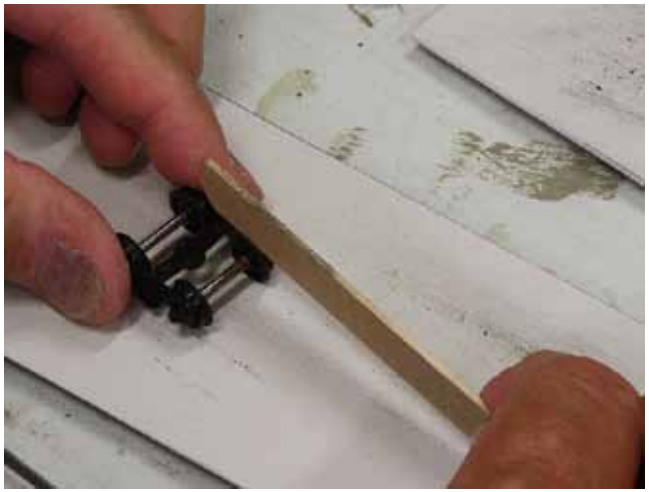
The gunk from four wheels makes a nice pile. Quick, off to the analysis lab! What is that stuff?

Polishing

Once the big chunks of gunk are off, I use a tongue depressor to get the last bits off and to polish the treads. I use a piece of sandpaper to get a nice square edge on the tongue depressor and to clean it between wheel sets. Tongue depressors tend to be slightly concave so I hold it such that the curvature helps get into the corner of the flange. Hold the tongue depressor against the tread and roll the truck back and forth under the wood.



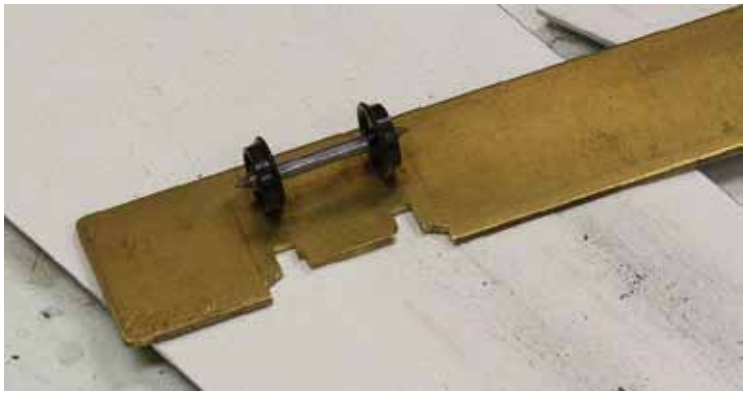
Turn the wood over for the opposite wheel. Note the dirt picked up from the wheel that was just polished. Swap the tongue depressor end for end for the other axle so that each wheel gets polished with a clean edge. Use the sandpaper to clean up the tongue depressor for the next set of wheels. There may be some "lint" on the treads after polishing. I use an old toothbrush to remove that.



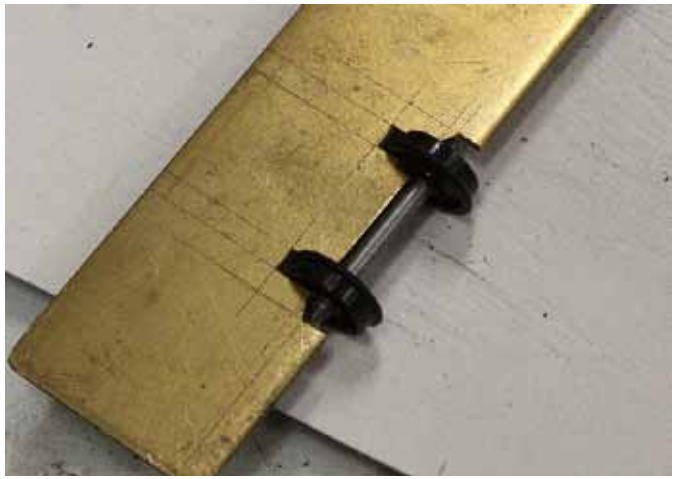
The Gauge Shop

Before replacing the wheels on a car, check the wheel spacing to ensure they are in gauge. I made a custom tool out of a piece of brass strip to make this process easier. I had standardized on Athearn wheels so the tool was made just for them.

After carefully setting up a "Golden Axle" using an NMRA track gauge and making sure the wheels were perfectly centered on the axle, I use a jeweler's saw and files to cut the gauge to fit the wheels and axle perfectly.



If the wheels are in gauge and centered, they will fit right in. If not, a quick visual inspection shows where an adjustment is needed. The slots for the wheels are just a smidge wider than the tread, so I can feel a very slight side to side motion if the spacing is correct. If I feel a bind, the wheels need adjusting.



Back in Service

The final result is a set of shiny used wheels, perfectly in gauge and ready for use on clean track. At least until I get around to replacing them with metal wheels. 𝙸

3D Printing of Locomotive Shells

Bill Kepner

So you had just about given up thinking somebody would make one of your favorite locomotives in N scale, the PRR E-44 electric. Now one is available! Additive manufacturing, or 3-D Printing has been available for a couple years; and uses a printer-like tool to create a solid object by laying down successive layers of materials.

There have been some users of 3D printing in model railroad manufacturing, but now Shapeways (**http://www.shapeways.com**) provides a service where anyone can upload a design of an object, and they will offer it for sale on their website. If another person wishes to purchase that item, Shapeways manufactures the object and ships it; and provides the original designer with a portion of the amount.

My railroad procurement office obtained the initial shell and is slowly working on making it an operating model. An ALCO C628 mechanism will be obtained to power the model; the wheelbase is correct, but the trucks aren't quite right; the prototype used a very unique set of trucks.

At the current pace, it is hoped the project can show good results by winter! It sure would be nice to see a bunch of this on my railroad like I remember from the 60's when I was growing up in Pennsylvania. 𝙸