

Three ideas for track cleaners



Make those rails shine
A brush with reality
Build a track-cleaning vehicle



In operation, the cleaning car is a full load. The cleaning pad can be seen beneath it.

Make those rails shine!

Build a simple track cleaner

by Del Tapparo | Fort Collins, Colorado Photos by the author

Even though track cleaning is considered to be one of the drawbacks of track power, it doesn't have to be an overwhelming chore. A passive track cleaner is a simple, economical way to get the job done. Basically, it is just a weighted platform with an abrasive cleaning pad, spanning the rails, under a piece of rolling stock. All of the weight is on the pad. The rolling stock, pulled or pushed by a locomotive, simply drags the pad around the track.

There are all kinds of fancy designs to redirect the pad in the curves, etc., but all you really need are two vertical rods sticking up through two holes in the floor of your rolling stock. This allows the pad assembly to freely move up and down, and directs all of the weight to the track, while the rolling stock pulls on it horizontally.

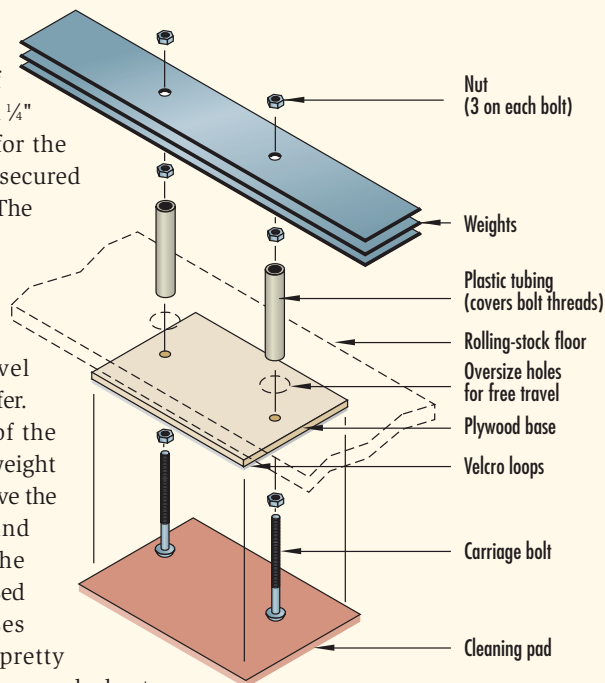
Here's how I built mine

I started with a 30' reefer that was gathering dust. Using a motor tool, I removed the brake detail, truss rods, and center sills from the underside of the car between the trucks to make room for the cleaning assembly. Using $\frac{1}{4}$ " plywood, I made a platform $3\frac{3}{4}$ " x $5\frac{1}{2}$ ", or as long as possible and just

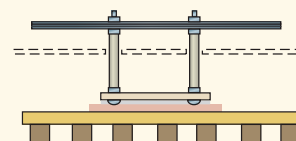
wide enough to cover both rails in the middle of my sharpest curve. Two 3" x $\frac{1}{4}$ " carriage bolts were used for the vertical rods. These were secured to the platform with nuts. The majority of the threaded parts of the bolts were covered with $\frac{1}{4}$ "-ID tubing to provide a smooth surface for vertical travel through the floor of the reefer.

Place one nut on top of the tubing that supports the weight plates, with another nut above the weight to secure it. I found some steel bracing at the home-improvement store used for tying wooden trusses together, which seemed pretty heavy. I cut it into several pieces, each about $12\frac{1}{2}$ " x 2" x $\frac{1}{16}$ ", so that I would have several combinations of weight to use as needed.

The bottom of the platform was covered with strips of Velcro to hold the cleaning material in place. Use Velcro loops to hold synthetic steel wool



Passive, under-car track cleaner



(red, medium grade, #00 is my preference, available at your home-improvement store). I also added steel wheels to the reefer for more stability.

The results

Much to my amazement, this little contraption works quite well. Three or four laps around the track appear to do nearly as good a job as my manual drywall pole, with the same type of pad, but it takes much less time and energy and I get to run trains in the process. I found 16 ounces of weight is just about right for my setup.

The locomotive, an Aristo-Craft C-16, pulling my cleaning reefer, pulls about 1 amp and can still easily make the ruling grade of 3%. If you want to run the cleaning car continuously as part of a train, you will need to reduce the weight. The cleaning pad clears my LGB turnouts and rail joints without snagging, and seems to clean the outer rail of the curves just fine.

I used to get out the drywall pole prior to each operating session. Now I only need it about every six weeks. My routine is still "Always clean before each operating session." It is just a lot more fun now. **II**



The cleaning assembly, assembled, outside of the car (for easier viewing). All detail has been removed from the bottom of the reefer.



To assemble, insert the bolts from the bottom of the floor, then add the weight platform to the top side of the floor.



Make the cleaning area as large as possible without interfering with truck operation.



A brush with reality

The author's scratch-built 1:15-scale track cleaner makes its rounds to keep the mainline clear.

Making a track cleaner in 1:15 scale

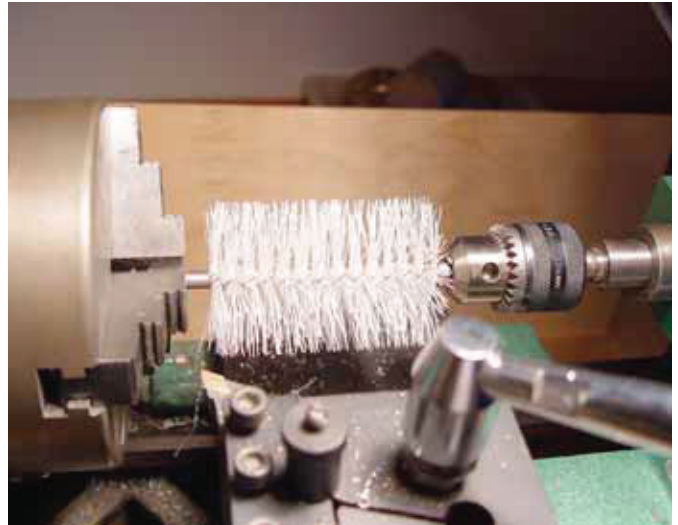
by Ralf Muehlbichler | Dernbach, Germany Photos by the author

Industrial railroads are usually designed for a single purpose and, often, anything goes. Their specifications are determined by the budget and technical abilities of their operators. My garden railroad follows this same line of thinking.

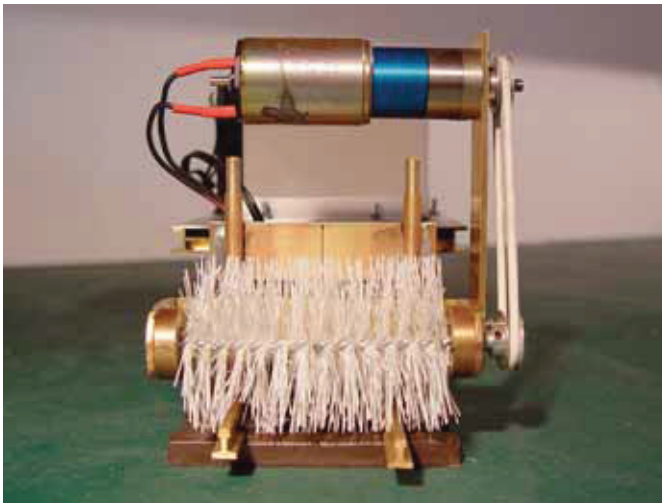
I run either live steam or on-board battery power, both with radio-control (R/C) units. This leaves me with occasional maintenance-of-way duties, in particular track



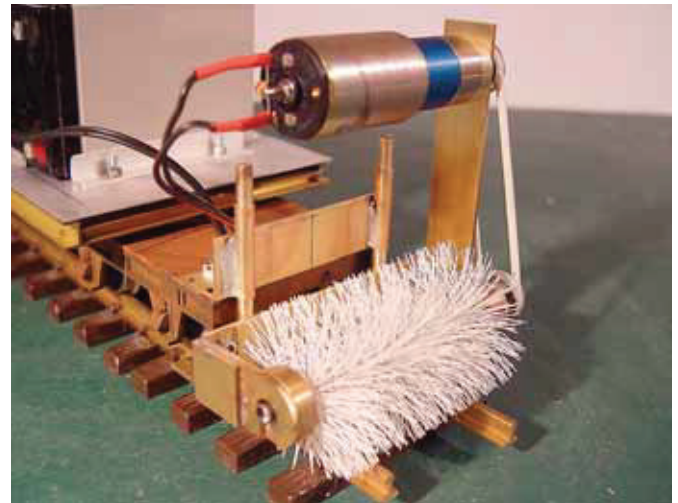
This brush, typically sold for cleaning bottles and pipes, forms the cleaning mechanism of the car.



After the brush was cut to fit and the shaft tubes filled with epoxy, it's held in a lathe to dry.



The brush was assembled to the rest of the unit. Pushing the motor/brush unit up or down adjusts the height of the brush.



Brass motor and brush supports were soldered to the off-center truck. Two pulleys hold the drive belt.

cleaning. While searching for a solution, I found an advertisement for a track-cleaning vehicle that was exactly what I wanted. Its cost, though, brought me back to reality. My budget would only allow for a do-it-yourself project.

In my leftover-parts box, I found an old car frame with two trucks. One truck was installed off center, leaving enough space at the end of the car for a rotating brush, making a perfect track-cleaning car.

It took a while to find a brush that would fit and be suitable for use on the track. I eventually discovered one at a wine fair, at a booth selling cleaning equipment. The brush, designed for cleaning bottles, tubes, and pipes, was about 3½' long and 2" in diameter.

Getting started

First, I positioned a battery on the car frame, followed by the switch, fuse, and charge plug. I soldered two brass columns to the off-center truck, to which I attached the motor and brush support. Two pulleys (from a children's construction set) hold

the drive belt. (See the photos above.)

I discovered an interesting fact during the construction of this car. Not being the best mechanic on the planet actually helped me with this project! The two brass columns are not 100% aligned. They jam a bit—just enough to hold everything in place without the necessity of additional fixtures.

Fitting the brush

The original brush was too long for the car, so I shortened it to an appropriate length. I had to cut carefully; the brush bristles are aligned between two twisted steel wires. By cutting off the ends, these wires have a tendency to separate and the bristles fall out. I removed just enough bristles on both ends to be able to slip on short tubes that function as a shaft. I filled the shaft tubes with epoxy, and mounted the whole assembly into my lathe and let it dry for 24 hours. (The lathe was just used as an alignment support.) After removing the brush from the lathe, I cleaned off the excess glue and mounted it onto the car.

Testing the unit

During its test run, a switcher pushed the track cleaner slowly around my garden railway. I discovered that optimum cleaning occurred when the bristles just touched the top of the rails. The unit had some trouble going over switches, but this didn't bother me. Switches, in general, require special care.

BELOW: A switcher pushes the track-cleaning car on its first trip around the railway.

I hope you're inspired to build a track-cleaning car. Maintenance-of-way duties are not only easy and comfortable, but also a lot of fun. And with the help of flea markets, swap meets, and good friends, this project was very affordable for my industrial line.

To see more photos of my garden railway, visit my web site at www.rmuebi.de (there are both English and German versions)

If you have any questions about this project, please email me at rmuebi@t-online.de 11



Why 1:15?

You might wonder why I chose to make a track cleaner in the odd scale of 1:15. The answer is simple. My garden railroad is part of a larger operation that is dominated by my other

addiction—radio-control trucks and construction equipment. The most common scale for these vehicles is usually between 1:14 and 1:16.

My industrial railroad runs on

gauge-1 track, mostly LGB. In Germany, we call the prototype of such a railway a "Feldbahn" (field railway). The railroad's scale is a compromise between the R/C-truck scales.



Build a *This battery-powered car requires little attention* track-cleaning vehicle

by Bruce Jahn | Livermore, California | Photos by the author

When I first thought of building a track cleaner, I felt the machine had to get itself around the track via battery power. I often let my rails get pretty tarnished, so the machine would need to make several laps before you could even see what the rails were made of. However, I don't have a background in electronics so the solution had to be simple.

Building the vehicle

I had gotten used to cleaning the rails with a drywall sander on a pole, and knew that method was effective, so that type of sanding sheet formed the basis of my cleaner. I had scratchbuilt a locomotive using a power truck from an Aristo-Craft diesel, so had a spare motor block just waiting for this project.

I had a 12V, 1.4 amp hour, lead-acid

battery with lots of recharges left, which seemed about the right size to power my rig. I enjoy working with acrylic plastic, so I made a quick sketch, dug through the scrap box, then moved to the saw.

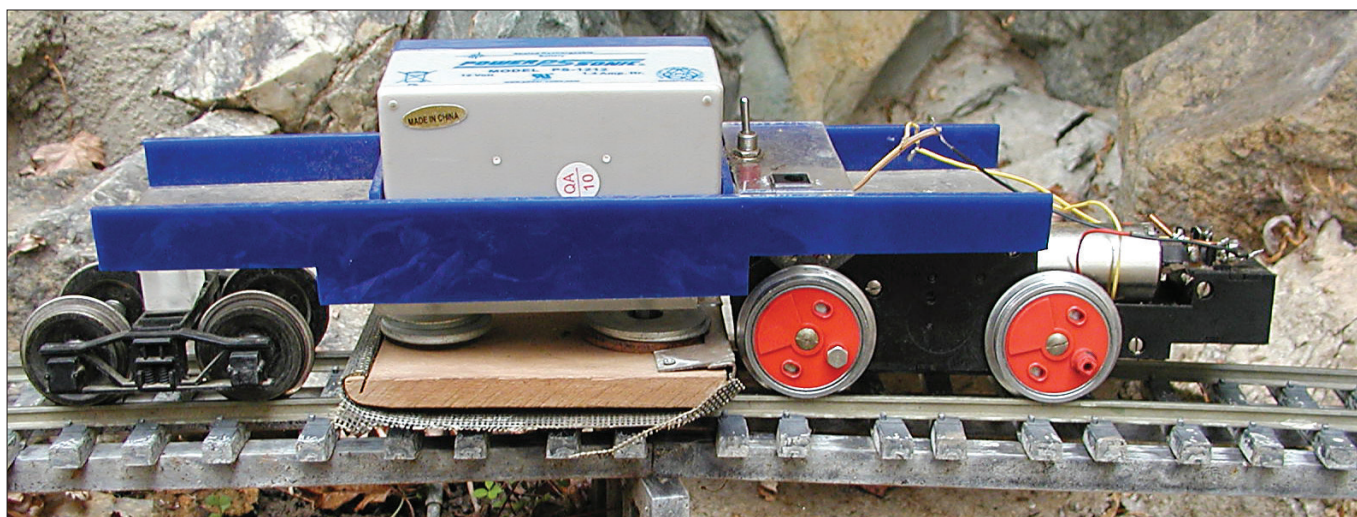
The actual cleaning surface uses half of a sanding sheet, as one would purchase in the home-improvement store. I used a $\frac{3}{8}$ " thick x $4\frac{1}{2}$ " long x $3\frac{1}{2}$ " wide piece of wood as a sanding block, rounding its ends with sandpaper so the sanding sheet wouldn't snag on anything. Using a razor saw, I cut an angled slot in the top of the wood on one end to slide the sanding sheet into, then wrapped the sheet around the bottom of the curved block. A little padding seemed appropriate, so I laid in a sheet of compressed sponge.



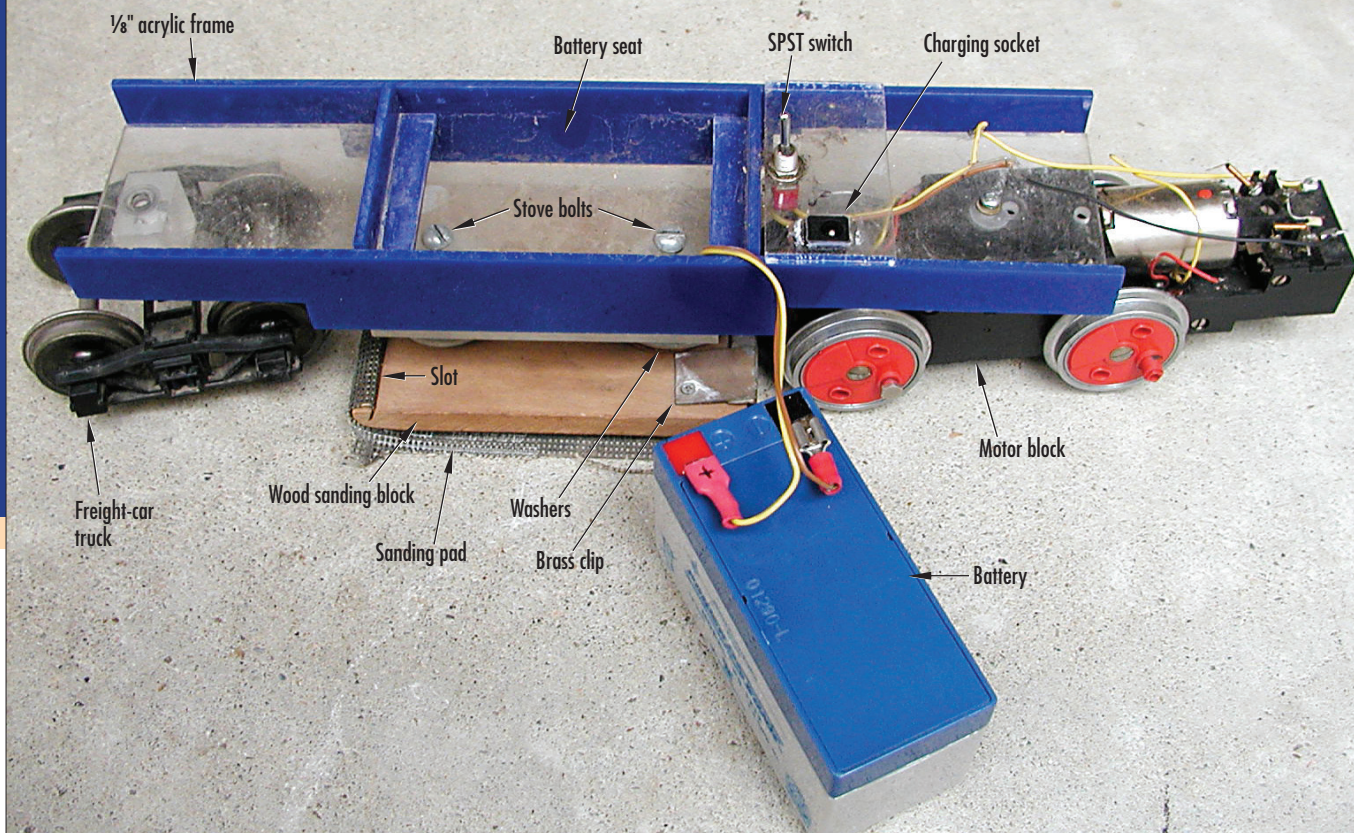
To hold the sheet at the other end, I cut a length of $\frac{1}{4}$ " brass angle stock and soldered on a couple of tabs with holes for #2 wood screws. I then sandwiched the sheet between the brass and wood.

A pair of #10 stove bolts, screwed into the wood, are the connections that drag the block along the track. I used the "trial-and-error" method to determine the number of big washers to weigh the block down onto the rails.

I cut $\frac{1}{8}$ "-thick acrylic plastic to bring everything together, using acrylic cement to adhere the pieces (if none is handy, CA cement works, too). My acrylic frame is $2\frac{1}{2}$ " wide and about 11", long but you could make yours to suit—the dimensions are not critical.



The author's scratchbuilt track-cleaning car. He turns it on and forgets it while it cleans the track on his railway.



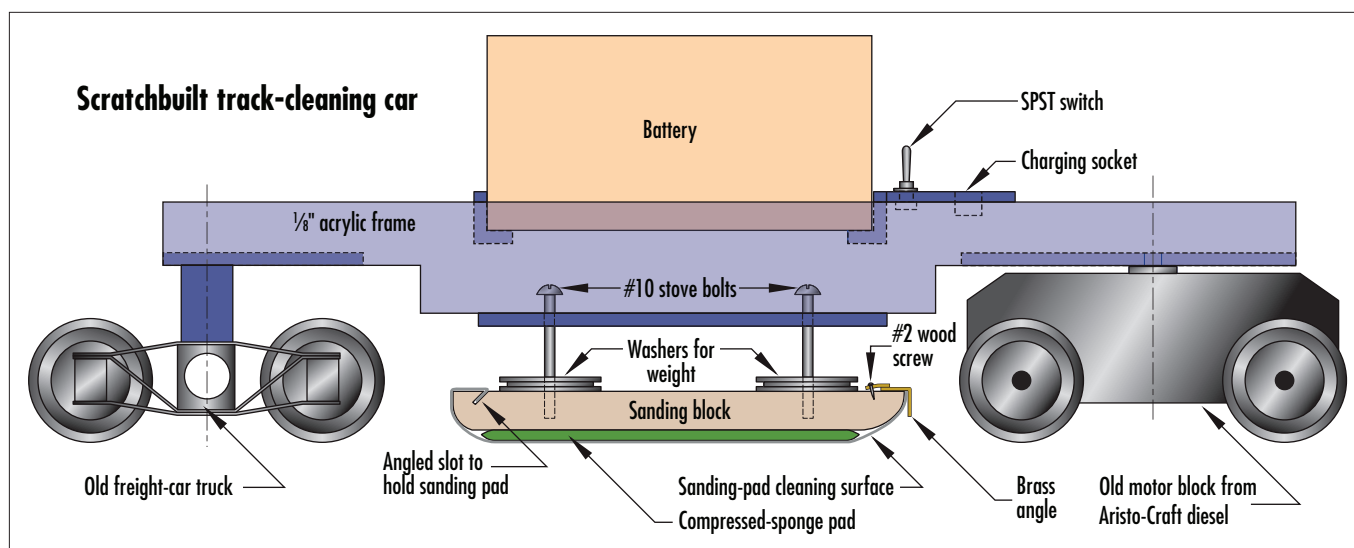
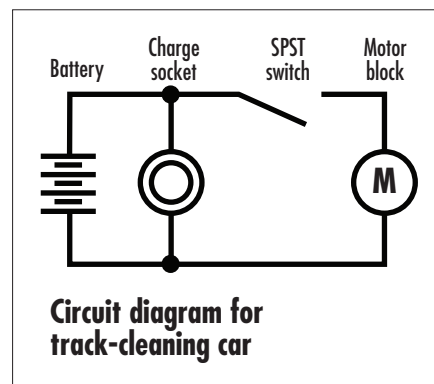
Components of the car. Dimensions are not critical and a similar unit could be made of plastic, wood, or metal.

Using the cleaner

For cleaning, I typically put the vehicle on the track, turn the switch on, and walk away, often forgetting it's even there. In a couple of hours (or sometimes the next day) I search the railway for the stopped cleaner (of course the battery will have run down), take it back into the garage, and recharge the battery. A good-quality battery should take several hundred charges before showing any sign of giving up, and my two-stage charger

ensures the battery won't be over-charged or heat up.

I've been using this cleaner both on my home railroad and on our modular display for about 15 years. That first motor block finally wore out, so I replaced it with another from my parts box. Except for the need to change the sanding sheet once in a while, the unit just keeps on cleaning while I'm doing more interesting things than cleaning track, which includes almost everything. ▀



ILLUSTRATIONS BY MARC HOROVITZ