

# LIGHTWEIGHT LOGS



Old logging train pictures showing tiny locomotives hauling impossibly large loads like the ones above have always intrigued me. There seems something courageous about the men who did the work, and something admirable yet comical about the overworked little machines they used. I wanted to duplicate some of this heroism on my own railway.

There was a problem, however. A miniature railroad car has many times the rolling resistance of the real thing; I have read that its bearings are so rough in comparison that it resists being pulled just as if the brakes were applied. Moreover, our locomotives do not have, proportionately anywhere near the tractive effort of the real things, and they are further handicapped by our steep grades and sharp curves. The laws of physics cannot be breached; our little engines simply cannot and will not pull trains anything like their prototypes.

There's more bad news. If we load our cars with real wood – miniature logs that we have cut from real sticks - we add tremendous weight to our cars, compounding all the other problems, but especially we are adding enormous friction in the bearings. All these factors add up to the impossibility of duplicating the kind of thing we see in these historical photos.

I once tried an experiment, connecting 6 log cars loaded with real hardwood logs to a locomotive on level track. “Ah,” I thought, “I’ve finally got a good looking log train at last.” The poor loco couldn’t budge.

And I had dreams of adding more cars! Clearly, something had to give.

## Making Lightweight Logs



I had quite a few Bachmann plastic logs.

They were light in weight, but they looked terrible. I had developed a way of improving their appearance by using a coat of matte medium for an adhesive and covering them with a layer of institutional brown paper towels, then painting them with acrylic paints.



I also sprinkled some with some shiny wet-mossy looking stuff that was falling off a Christmas decoration. Not bad.



These refinished Bachmann logs were light and they certainly looked better, but they were were pretty small compared to what I had in mind.

However, the method did suggest a starting point.



I discovered that the paper towel bark that I was making could be peeled off the Bachmann logs. I simply had to run a box knife blade down the length of the log and unwrap it. I made several sheets of this bark.



To make my sheets of bark larger, I connected two or three of them together with matte medium and strips of the paper toweling.



Meanwhile I had gone hunting around the house and into the recycle bin to see what I could find in the way of armatures for my new, fatter logs. There were paper towel rolls, the cardboard tins that cleansers come in, ditto for cocoa tins, and so on.

My plan was to wrap these lightweight empty cardboard tubes with the paper bark I was making. Anyone more inventive or less lazy than me could create their own cardboard cylinders, from cereal-box cardboard, for example.



Now, the Bachmann logs have bumps and lumps which become hollow spots in the back of the paper bark. To prevent these from being flattened I filled each one with a little ball of paper held in place with matte medium.



Many of the tubes I was using had a glossy or metallic surface that would resist my adhesive. I sanded all these finishes off.



Then I applied matte medium to these tubes and wrapped my bark around them. I finished the seams in the bark with a strip torn, not cut, from my stack of paper towels.



My logs needed ends. I felt they really ought to have some representation of annual-ring texture similar to the old Bachmann logs this project began with.

On second thought, maybe I could do better.



Now, part of the original project was also to shorten those Bachmann logs to fit on my log cars.

In that project I found myself cutting those hollow plastic logs, and even splicing bits together to make new ones. In the process I developed a procedure for making ends, so I knew what to do.



I took a foam produce tray and pressed a log into it to get an impression of the end. Then I cut this out and marked rings on it with a pencil point.

Then I epoxied this end into the end of my log, and when it was set, painted it with acrylic paint.



Some of my logs seemed to need a little reinforcement in the middle. No problem, I simply cut out a disk of the foam and epoxied it inside the tube. A couple of my logs have two of these reinforcement disks. I placed the disks inside my logs by pinching them with my needle-nose pliers.

This makes a simple project once you have collected the materials. Start now and as you find something, toss it into a box until you feel you have all you need.

And how well does it work? Well, in the photos below you see two logs, virtually identical in size, on the kitchen scales. The one on the left is a well-dried, solid hardwood log. On the right is one of my lightweights. As you can see, my homemade log weighs only 10% of the natural one. This means I can haul ten of these for one of the naturals! They add practically nothing to the weight of a car, so as far as the engine is concerned, it's almost like pulling a train of empties!

In fact, do the math: the BIGGER you make your logs, the lighter your train will be!



Needless to say, I'm very happy with this result.