Critter control

We each probably have an engine that is our throw-something-on-the-railroad-quick-because-someone-wants-to-see-something-run locomotive. In many cases these are battery-powered units with not much more than a toggle switch to turn them on and off.

The biggest problem with these "quick and dirty" locomotives is that they're usually one-speed ponies. That's where G-scale Graphics' "Critter Control" comes into play. It's a simple speed controller that allows you to vary the speed of the engine as you see fit just by turning the control knob. It's very small—about 1" square and ½" thick, not including the top of the potentiometer used to adjust the speed. It's the potentiometer that is actually used to mount the controller in the engine. You need only drill a hole in the floor, roof, or wherever is convenient. The underside of the controller has four screw terminals for attaching wires—two from the battery and two to the motor. Installation is simple and it operates on anything from 7 to 20V.

As luck would have it, when the control arrived for review, I had just the project for it sitting on the workbench. I recently acquired a Bachmann 0-4-0 Porter to kitbash into a small East Broad Top shifter. This is very much a "turn it on and watch it run" locomotive but I wanted some degree of speed and direction control on it for play value.

It made sense to put all the pertinent controls in the cab of this locomotive, much like my live-steam locomotives. I began by gutting the factory electronics from the locomotive, leaving just the wires to the motor. I installed a 7.4V Li-Ion battery under the removable saddle tank, along with a MyLocoSound steam sound board. (See August 2010 *GR* for review.) I then built a small panel for the controls, including an on/off switch at the bottom, the Critter Control, a DPDT toggle switch to control the direction, a momentary SPDT switch for the whistle, and a charging jack for the battery. All of this fits in the back opening of the cab, where it's easy to reach in and adjust.

As mentioned earlier, wiring the Critter Control is simple, as there are only four wires that you need to connect. In fact, wiring the on/off and direction switches (and wiring the sound board) took more time—and even that was easy. The big thing to remember when wiring the Critter Control is that the battery inputs are polarity sensitive. There are marks on the control to let you know which is which. Getting this backwards will cause damage, so keep that in mind. In most cases, you're wiring this directly to the battery or very close to it, so it's not hard to keep things straight.

Once everything was hooked up, control was excellent. The pulse-width-modulation control provides very slow speeds and doesn't waste battery energy the way a linear motor control would. The PWM signal plays well with the MyLocoSound board, which uses the motor voltage to adjust the rate of the steam-chuff exhaust.

Don't let the small size of this unit fool you. While it's called "Critter Control," and its most common usage will probably be in small locomotives, the motor driver is capable of handling up to 5 amps. It'll move a large 2-6-6-2 as efficiently as a small 0-4-0, and will definitely work for the larger garden scales (⅞", 1", etc.).

The "Simple" Critter Control reviewed here is one of three levels of critter controller G-Scale Graphics offers. Also available are the "Basic" and "Enhanced" Critter Control, which offer varying levels of improved controls, including automation ($59 and $79 respectively).

This controller is everything you'd want such a simple unit to be. It's about as small as you can make it—little larger than just the potentiometers I've used on other projects—and dead simple to wire. It plays well with third-party sound systems to boot. It's a great way to control that "grab and go" locomotive. **—K.S.**

Vital statistics

Manual pulse-width-modulation speed control for battery-powered locomotives
G-Scale Graphics
4118 Clayton Ct.
Fort Collins CO 80525
Price: $29 + s&h
Website: *www.gscalegraphics.net*

Dimensions: Height, ½" (not including control knob); length, 1"; width, 1.1"

Pros and cons

Pros: Small size, easy wiring, smooth control
Cons: None