

## Bachmann Spectrum® On30 2-Truck Shay

Apologies to the Bard for this misquote, but for me, “The Shay’s the Thing.” I have been fascinated with them since I can remember, and I can enjoy their whirling line shafts, clanking gears, rocking valve gear and staccato exhausts for hours on end. Judging by the number of HO and large scale Shays Bachmann has sold, along with all the other model Shays produced over the years, I seem to be in pretty good company.

Bachmann’s previous efforts have included a large model of a medium-sized Shay, (40-ton Eli-Thomas #5 in large scale) and a small model of a large Shay (80-ton Mower Lumber #5 in HO scale). This time around they’ve produced a medium-sized model of a tiny 10- to 14-ton Tee Boiler Shay. Bachmann has been very careful to term this as a generic prototype built between 1882 and 1891 and refurbished by a used-equipment company such as Southern Iron and Equipment Co. (SIECO). And yes, that’s the same SIECO that Athearn’s boxcar is based on. Frankly, I think Bachmann has sold itself short. This is an excellent model Shay of that era, and I was quite impressed with my sample.

The model is On30, which in case you’ve been hiding out in a cave in Afghanistan, is the hottest thing to hit narrow gauge since General Palmer. The model is full  $\frac{1}{4}'' = 1'$  scale, but runs on HO gauge track, which scales out to be 31" and change. Early hobbyists called it close enough for 30" because it allowed them to build narrow gauge models using HO mechanisms. Since Bachmann started commercially producing this scale/gauge combo, it has exploded in popularity and even hardcore narrower gaugers like myself have

by Chris Lane

Photos by the author



been impressed with the quality. This Shay is Bachmann’s best effort to date.

### The Prototype

Briefly, the Shay was invented by a Michigan logger named Ephraim Shay in 1880. I provided a great deal of information about Shay and his invention when I reviewed Bachmann’s HO scale 3-truck Shay (see January 2001 *MRG*). Rather than rehash that, I’ll just discuss the development of this particular class of Shay.

The first Shays had a vertical, marine-type boiler which was easy to fabricate and easy for the owners to use and maintain. But this design was flawed because, in a working locomotive, the heat traveled straight up the stack and didn’t heat much water. And because the tubes ran from the firebox straight up to the stack, the surface area of the crown sheet was very small. The Tee or Boot boiler appeared for the first

time on Shop Number (s/n) 53 in 1882. This boiler moved the boiler tubes to the long section that ran parallel to the rails, greatly increasing their ability to transfer heat to the surrounding water, and the crown sheet gained much more surface area. The bottom portion of the boiler was the firebox, while the upper portion acted as the steam dome. Lima developed a straight boiler, wagon top and extended wagon top boiler at the same time, and unlike other locomotive builders of the period, built locomotives featuring any one of these boiler designs for some period.

The last Tee boiler Shay was s/n 1516 built in 1905. The last photo I can find of a Shay featuring the old-style fluted sand dome was s/n 338, which was built in 1891. S/n 305 is basically identical to Bachmann’s model. It’s important to note that Lima was basically building catalog locomotives from 1885 on, and locomotives in the same gen-

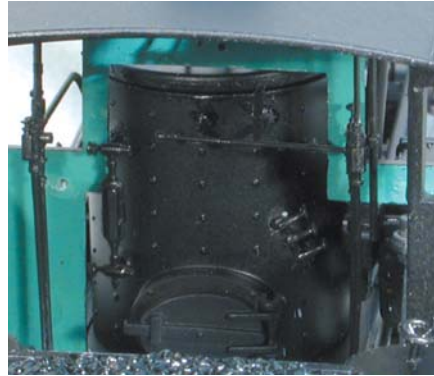


eral class and weight were virtually identical from the factory. Once they started working however, they often became individualized very quickly due to damage during use and the skill (or lack thereof) of the folks doing the maintenance.

The term “factory cab” is almost an oxymoron, as the Shays were seldom able to keep them for more than a few years in service. Air compressors, dynamos, electric lights, steam pumps, gypsy engines, tanks, toolboxes, cabs and stacks were added, removed or changed with frequency. This allows the modeler to add or change details to their heart’s content, and Bachmann used that to their advantage in their rendition of this model.

The model comes in the familiar dark green box and is cradled in a hard plastic insert surrounded by brass-import quality foam. The model has a smooth black semi-gloss finish that I find very realistic. The smokebox and firebox are painted a dark gray graphite color. The tank features the typical Lima two stripes and is opaquely lettered Colorado Mining Co. The bell and single-chime peanut whistle are brass colored, as is the completely legible builder’s plate and front numberboard. Fans of the “Lima Diamond” style builder’s plate will be disappointed, but prototype Shays didn’t come with those until after 1910. By the way, every paint scheme features a distinct number on the front numberboard and rear of the tender. Mine is #6. None of the models have numbers on the cab; that is left up to the modeler. Speaking of cabs, the model comes with three different styles, either a steel cab like on this model, a vertical paneled wood cab, or a two-panel wood cab.

There are also two styles of stacks: a straight stack topped with a fine mesh spark arrestor or a diamond stack with fine mesh inside. The mesh is gorgeous, the best I’ve seen on a model to date. Every model comes with your choice of fuel loads: a cast-resin wood load with metal sideboards, a metal coal load painted a glossy black with plastic coal doors and boards, or a drop-in oil bunker. All the loads look great and drop



right in the bunker. They also allow easy access to the electronics board hidden in the bunker. The board is DCC plug equipped if you use DCC, and SoundTraxx offers a plug-and-play sound decoder specifically for this locomotive.

The model is made primarily of die-cast metal with cast metal and engineering plastic detail parts. These include a steam pump, dynamo, sand boxes on the rear deck, two tool boxes, siphon hose, rerailling frog, detailed backhead including two injectors, throttle, water gauge, steam gauge with decorated face, tri-cocks, and opening firebox door. The only item missing is the reverse quadrant. Since that is a large and prominent control on the locomotive, its omission is a bit puzzling. The Back Shop makes a brass one; see their website: <http://home.one-main.com/~thebackshop/Shay.htm>.

I’m also not sure why they choose to offer a cab sans windows. While far from uncommon, most owners made some provision for closing the cab off from the weather. It’s a minor point and third party laser-cut windows are offered if it bothers you. In the past I’ve been critical of Bachmann for including clunky or incomplete detail parts on their otherwise great looking and running locomotives. But this is not an issue with this model; all the parts are well detailed and proportioned. That’s not to say you won’t want to replace some detail parts for a different appearance. The most likely candidate for an appearance change would be the headlight and bracket castings. These represent more modern parts that would have been added later in the Shay’s life. You could backdate by using the early Shay bracket and a box or round oil headlight. You could eliminate the dynamo or leave it on, as it was very common to electrify old oil lamps. Either way, parts are available from the Back Shop or Precision Scale. The rivets, pipes and wood grain all have excellent detail.

The driveline is a discussion in itself. For starters, the gear train from the motor is almost invisible. You have to hold the locomotive upside down and at an angle to even find it. All the parts of the Stephenson valve gear are included and move when the locomotive runs. The rest of the components are in scale and exhibit good detail throughout.



## Performance

The model with the die-cast coal load installed weighs 15.9 oz. and exerted 3 oz. of pull. This equates to 54 free-rolling cars on level or just over eight on a 4% grade. On30 cars tend to be heavier than their HO scale counterparts, so these performance figures may be slightly high. We also operated the locomotive on our new “torture track” test layout which features #4 turnouts with plastic frogs, 18” radius curves and 4% grades. The locomotive performed flawlessly under these less-than-ideal conditions. Pick-up is via all eight wheels. The Shay started smoothly and was able to move quite slowly without stalling. Top speed was relatively low as is in keeping with the prototype. Full out, the locomotive became a bit noisy, which I attribute to the quantity of gears, high rpm of the motor relative to the locomotive’s speed, and lack of break in. With proper lube and run in I would expect this Shay to be as quiet as any On30 locomotive.

Speaking of lubrication, you should lightly lubricate the friction points of the engine with plastic compatible oil, but you **should not** oil the motor bearings as has been suggested by some. The motor sits vertically instead of horizontally, and the top motor bearing is difficult to access. I feel the odds of applying too much oil and having it migrate down the shaft to the brushes and frying the motor are very high. I would only use something that is going to stay put, and honestly, when was the last time you lubed the motor bearings in your computer or VCR? I just don’t feel these kind of small, quality motors require it. I should also mention that Bachmann installed a yellow LED in this model that gives a nice amber glow when running forward.

Those boys at Bachmann sure know their Shays, and they have delivered another excellent value to the modeler. Roadnames offered are Greenbrier & Big Run, Pocahontas Lumber Co., Midwest Quarry & Mining Co., Colorado Mining Co., Little River Logging Co., & painted, unlettered. MSRP is \$275.00. **I**