

# Build a 9'x11' HO Shelf Layout of the Trona Railway



– by **Bruce Petty**  
Photos by the author

Take a lesser-known prototype shortline, add in a bit of the SP plus some heavy industry, and you've got a great setting for a spare bedroom layout ...

The Trona Railway's Baldwin diesels rumble across the Mojave Desert basin ringed by distant mountain ranges. Soon the heavily laden potash train pulls into the Searles Station interchange, midway along Southern Pacific's Jawbone branch running from Mojave to Lone Pine, California. An old pair of Baldwin diesels pulls into one of the yard tracks to drop its string of loaded hopper cars. The crew then makes a runaround move to pick empties and

Figure 1: You can hear them long before the old Baldwin diesels are seen crossing the desert basin with a train load of phosphates. This train is leaving Trona for Searles Junction, the Kerr-McGee Plant is in the background.

their caboose for the 30-mile trip back to the Kerr-McGee plant at Trona, California. This is one of my nostalgic memories of how it was on the Trona Railway when I photographed the line in 1973.

The mammoth Kerr-McGee, owned by American Potash & Chemical

Company before 1971, sits along the old shore line of dry Searles Lake. The crusted white surface gives little indication of what lies a few feet below. Brine, rich in chemical salts is pumped from the lake bed into the plant for processing into soda ash and other industrial chemicals.



## HO Layout Design

The Trona Railway makes a fine shortline to model for any time period from its construction date in 1914. However, the layout I've designed here is modeled during the late 1960s through early '70s. At this time, Trona was still running their three Baldwin AS-616s and the two huge double-ended Baldwin DT-6-6-2000's. The Baldwins were a sight to watch at work.

This 9'x11' layout is designed as a small linear walkaround (shelf type), for primarily a switching operation. The track work is level and sits 54 inches above the floor. This is a good height for my viewing angle of the layout and the #6 turnouts will not look as sharp as they really are. Keeping the center of the room open provides ample space for visiting modelers. With an average shelf width of 18", the room then allows about 6 x 7' for standing space. This is not a lot of space, but it will work for visitors.

Modular frames are constructed, using 1x2" pine, with a 3/8" plywood surface to be set on standard metal book shelf brackets mounted to the wall. I built a shelf layout in sections so the cutting of lumber and messy scenery work can be done outside the house. This outdoor work really helps to keep the train room clean, especially with furniture, book cases and the modeling desk placed under



the layout. Modules can also be taken down and turned over to do electrical wiring work on the underside. This is a really good idea for us older modelers! The second reason is mobility. The layout can be expanded with additions to the SP, Jawbone branch to run both

the Lone Pine Local and Trona Turn to Searles Junction.

## Track

I can say from experience, that doing any sort of switching work on track

with a grade can set free-rolling cars (such as made by Atlas) to go their own way. Most freight cars used on the Trona for my modeling period were 50-foot covered hoppers, so 30" radius curves are used to give a train a better look when running. Walthers code 83, #6 standard and #8 curved turnouts with Micro Engineering code 83 flex track are used on SP's Jawbone and on the Trona main.

Yard tracks between turnouts at Searles and at the Trona plant can be code 70. I added a lift section to connect across the doorway from Trona to Searles for continuous running. This feature can be used to add scale miles to a small layout and for visitors who just like to watch a train run.

Hand throw turnout control is done by using a simple method from under the layout. An .030" diameter steel wire that is used to operate the switch points comes through a brass tube under the layout and is bent to a 90 degree angle allowing 4 inches to be left over. I glue a ceramic jewelry bead with a hole onto the end of the wire. Two sheetrock screws are screwed on each side of the wire's throw to hold the switch points in place. This method has worked well for my shelf layout and easy to install within a few minutes. This also allows for detailed switch stands to be used.

## Scenery

Scenery can drop and rise for fills and cuts on the right of way so to give an illusion of grade. Desert scenery is



fairly easy to model by using light desert type earth colors. I also wanted to maintain some open space between the track and the backdrop to give the illusion of distance (“Painting Distant Mountains”, Model Railroader January, 2008). Another MR article (April 2006) “Landscaping a Layout with Live Cactus Plants” would help to scenic this layout.

Midway between Trona and Searles, the railroad passes a unique geological feature, the Trona Pinnacles. This unusual landscape consists of primarily calcium carbonate tufa spires, some as high as 140 feet, rising from the bed of the dry Searles Lake basin. I placed a few of these geological features in one

corner of the layout plan using a few small spires for the effect.

## Control System

For this size of layout, I prefer using DC, with an MRC Control Master 20, power supply with several on/off switches placed in areas of the layout power for engines parked at the diesel shop and the SP trackage at Searles.

## Operating Concept

I’ve already modeled the SP’s side of this potash train known as the “Trona Turn” for running at our model railroad club. The SP operated this train from Searles to the Port of Los Angeles and back. Most of this



Figure 4: Trona’s Baldwins await their next run in front of the four bay diesel shop. Selective compression can be used to model this structure as a two bay diesel shop on the layout.

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Figure 3: Modeling this huge potash plant can done as a low relief structure with a lot of selective compression. This would give the desired overall monolithic effect along the wall of the layout with the doorway. Using the Walthers, Valley Cement kit, #933 - 3098, would be a good start for kitbashing. The diesel shop at the left side of the picture is made of corrugated metal, and could be scratchbuilt easily using Evergreen styrene.



Figure 5: Trona's only caboose sits alongside the diesel shop ready for the next run. An Atlas HO scale modern International caboose makes a good start.

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*(Photo from our N-Scale layout)*



potash was loaded onto ships heading overseas.

On the Trona layout, the yards are small, holding 6 to 8 cars per track, so only one Baldwin AS-616 is needed for an operating session. Time "On Duty" starts at the engine house as the crew leaves with one of the Baldwins and caboose to make up their train. The crew then leaves the caboose on the main track as the engine moves to the top of the yard before it backs into the power house spur to pick up the empty coal hoppers. It backs up again to pull the potash hoppers at the plant's loading track. All the cars are pulled ahead to clear the switch and backed down the main to the caboose. The train is now ready to leave Trona for Searles.

The doorway crossing can be used to extend the running time by racking up some scale miles to Searles and back.

Pulling into one of the empty yard tracks at Searles, the crew drops the loads and runs around the train to pull the empty hoppers for the return trip. Any cars other than potash hoppers are now switched to the end of the train for later set-out at Trona. The caboose that was left at the end of the loaded cars is picked up for the return trip to Trona.

Back at Trona, the train pulls into the potash loading track and the engine runs around against the caboose. The hoppers are pushed forward and the coal loads are cut off to be switched into the power plant. Other switching include switching a flat car with

heavy machinery for the plant to the end loading dock spur, and a gondola to the scrap track spur at Spangler. At the end of the shift, the caboose is set back next to the engine house where the Baldwin is serviced.

As you can see, a layout with 19 turn-outs can provide plenty of operating time for switching work. A day's work could take an hour or more to complete.

## Trona's Diesels

Bowser manufactures a Baldwin AS-616 (originally by Stewart) that can be painted black with silver ends and lettered with Microscale's #HO-87-209 decal sheet. Brass models of an AS-616 and the double-ended Baldwin DT-6-6-2000 were made years ago, but they do come up for auction on Ebay occasionally.

I would suggest replacing the brass loco junky motors with a modern can motor and plastic universal drive shafts. This improves running considerably for slow speed switching work. Also on the Trona roster during the time period modeled are an EMD SW1200, SD9, SD40R and a GE 80-ton switcher used within the plant area.



*Article continues on following pages.*



**Figure 6: A 1973 meet at Searles Junction with the Lone Pine Local, Trona's Baldwins pull into a yard track with loads to be later picked up by another SP train called the Trona Turn.**



**Figure 7: At the road crossing at Searles Station the Baldwins run light back to Trona.**

# Freight Cars to Trona



Many styles of two- and three-bay covered hoppers that were seen running on the Trona Railway during the '60s and '70s are now available and can easily be found at the local hobby shop or on eBay.

## Accurail

SP & SSW, 3-Bay Center-Flow covered hopper

## Athearn and Walthers

Kerr-McGee 50-foot, plug door box cars.

## Atlas Model Co.

### ACF 3-bay Cylindrical Hoppers

SP #1033 & 1050

ACFX #62012, Kerr-McGee

SHPX #60514, FMC Chemicals

ACFX #60741, Stauffer Chemical Co.

SHPX #62016 & 62017, TRONA CHEMICALS

### 2-Bay Standard Side Covered Hoppers

NAHX #31244 & 31242, TRONA, American Potash & Chemical Co.

NAHX #31050, Kerr McGee.

## MDC Co.

### 2-Bay Standard Side Covered Hoppers

NAHX # 31014 & 31050

## Proto2000

### PS2-CD High Sided Covered Hopper

NAHX 47057 & 47086

## InterMountain

Cylindrical Hopper, TRONA CHEMICALS

A few other types of cars to include in trains to Trona:

- Two or three open top D&RGW and UP hoppers carrying coal for the power plant.
- Tank cars are needed for diesel fuel for the railroad and heavy equipment.
- An occasional SP gondola is needed for scrap iron loading.
- Standard 50-foot box cars are used for bagged product loading. ■



**Figure 8 (All 4 cars):** Loading potash is a dusty business. It settles on all parts of the car including the trucks. With rain and weather on the road, streaks form on the sides and seal potash coating of the white chemical to the car. I use a wash of flat white latex indoor house paint, mixed with a little alcohol to give this effect. A flat edged brush can be used to pull white streaks down the car side.

## Lightweight Shelf Layout Construction Tips

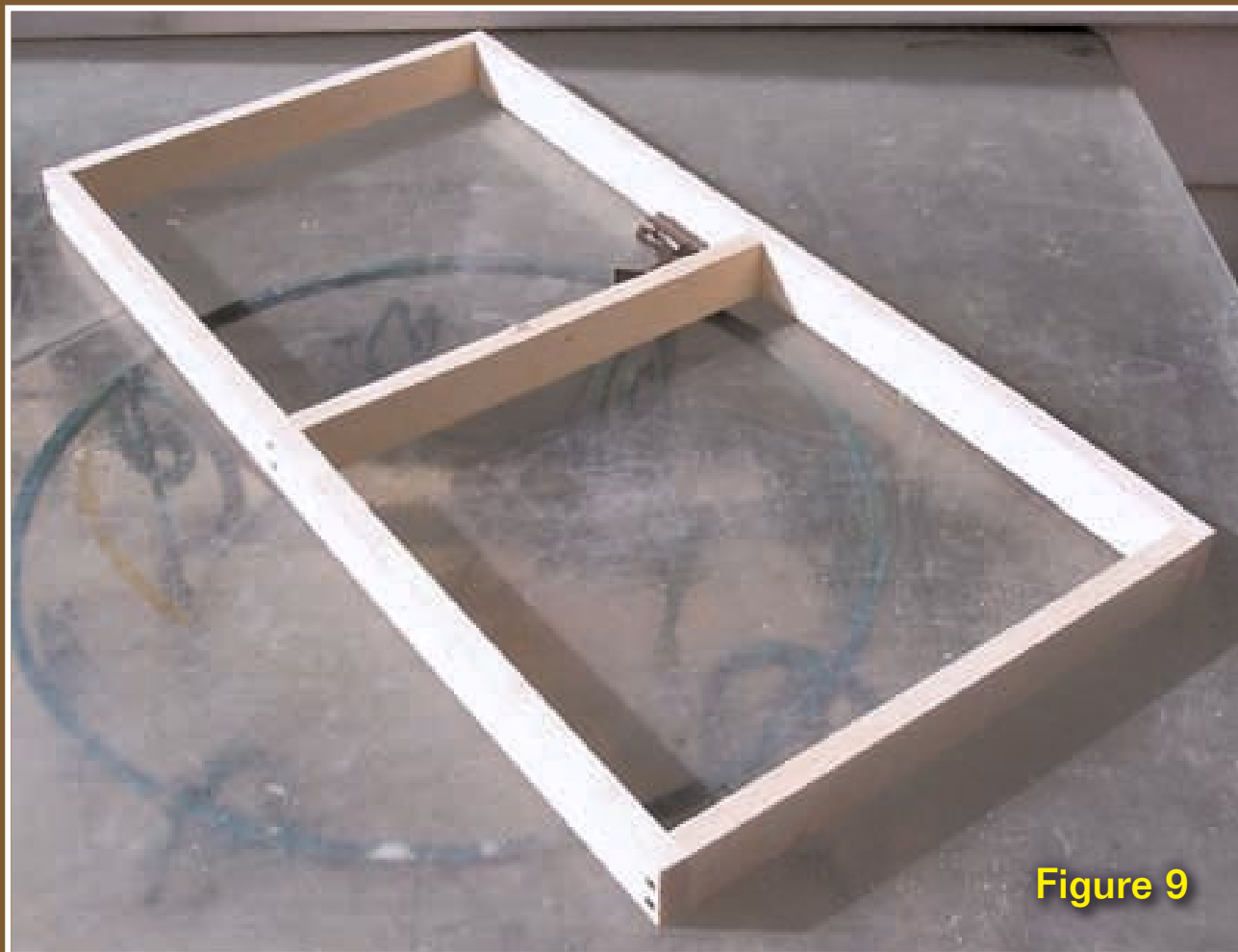


Figure 9: Cabinet grade 1"x 8" lumber can be cut down on a table saw into 1"x 2" material to build the frame work for each module unit. Each frame can be overlaid with 1/2" plywood, then glued and screwed.

Figure 10: Make sure the frame is square while sitting on a flat surface while putting the screws.

Figure 11: A handy laser level can be used to mark the height placement of where each metal book shelf bracket will be mounted to each stud in the room. On top of the bracket is screwed a 1"x 2" x a half inch longer than the module's width. Adding a short block to the back will keep the module frame from sliding forward. Once the modules are all screwed together, they are allowed to float on the bracket assemblies.



Bruce Petty has been a model railroader for 50 years, starting off with Lionel, then later HO-Scale in high school. In 1972, he started a model railroad company called "Century Foundry & Metal Works" that made white metal castings. His first product was a old time Gas Pump, followed by Signal and Passenger car detail castings that are still available today from Showcase Miniatures. He has an HO layout modeling the LA area, Los Angeles and San Fernando Valley Railroad. It can be seen in the 2006 Great Model Railroads publication.