

**SLIMTRACKS NARROW GAUGE WORKSHOPS
PRESENTS**



“LAURIE’S STRUCTURES”

Part 1 - Styrene

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G'Day friends,

I was asked how I make my railroad structures & to explain some techniques I use to make them look good. There are no secrets in building model structures just how to go about the construction. The materials I use are wood & styrene for the most part but using detail parts really makes a good model better, we will discuss this later in more *detail* of course!

I have “Master Builder Structures” in the NMRA AP & I have won several awards in contests with my structures so I'll be passing on my hints & tips so you can think about using some of this information & combining it with your own thoughts or others on the subject. The more information the better your model structure will turn out, but you must make your own they give you skills.

WORK AREA - Table, Platform & Base

Having a dedicated workbench is a real benefit as you can have all the tools & materials available & within easy reach. The alternative is to make one or more portable work platforms that can be used for making a specific model. The other work area is a model base. In Fig.1 you can see the sawmill I scratchbuilt. Have a close look just in front of the loco & you can make out the 10mm thick plywood base I used to build it on. The sawmill was on my old layout & I knew one day I would be moving so I needed to remove it. A solid base keeps its shape over time & makes the construction on top of it easy as it can be rotated to get to every area. I have several portable work platforms with 4 rubber feet glued to their bases so I can use the kitchen table in the house during winter where it's warm. (Fig.2)

FIG.1



FIG.2

You can see my portable table; I was building a trestle but needed to paint some figures so it has enough room to do both. Notice the edges – they have side walls to stop things rolling off. Oh, the figures? They are going to be my “Silverton Towns Folk” – my special friends in miniature! The block of wood with the dowel has “blue-tack” on the end to hold the figures as I hand paint them. Jigs make life so much easier & you end up doing a better job of the model work. See the little miner on the pole?

Hey, when your done reading this get out the garage & knock yourself up a portable little table you will never regret spending 30 minutes cutting a scrap of sheet with a white top & sticking rubber feet & side walls on it. You will use it much more than you think my friend.



FIG.3 The "Repair Yard"

Here again I used a base for my model but this is a diorama but the same principal applies – we all need to place our models & maybe re-site or remove them one day. I haven't decided if I like where this has been placed so it's not secured down as yet.

OK, we have a fair idea about where we are making our structures.

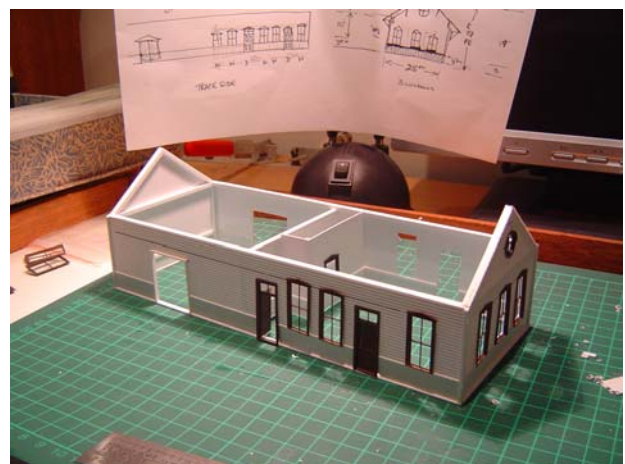
CONSTRUCTION MATERIALS

Which is the best & easiest to work with? Sorry, not applicable in my book. I look back at what materials our early modelers used back in the 1920's to 1970's, they were resourceful & used all sorts of stuff not just the stuff available from your Local Hobby Shop (LHS). They used cardstock, tin sheet, brass & other metals, balsa wood or made their own stripwood from various close grained timbers (Bass wood & Cedar etc). We also need to think about what is available these days. I shop in sewing & craft shops with my wife & find a wide range of items from tools to materials. Now, although there are a lot of different materials the most common that will last the longest are wood & styrene. These keep their shape over time whereas cardstock & moisture absorbing materials won't. Yes you can seal them but too much trouble & I'm only here for a short time & want to enjoy my hobby life – model time is a limit allowable by the one we married.

Let's start with Styrene shall we? I like the Evergreen styrene that comes in strips & sheets. It is labeled with sizes applicable to HO scale & very convenient in the range & shapes they make. It cuts nicely & can be distressed to look like aged timber or painted & weathered. The advantage styrene has over wood is its glue sets faster & with little visible joins. Wood on the other hand will absorb the glues & it is often necessary to pre-stain or paint each piece of wood before gluing it. I have successfully used ACC for wood & also the white wood glue but it takes a long time to set & you need to plan ahead to be doing several different things while the one piece is drying. Styrene is the quickest way to get the model made.

FIG.3

Here is my Silverton Depot & the portable table I built it on. You can see the plan I drew to make it & the Grandt windows & doors I used. The green cutting matt is another helpful tool as the squares were used to keep the model square & to cut the styrene sheet on. I use a NWSL chopper to cut styrene & wood to length.



You thirsty? Gee, we've gone nearly 2 pages so far & it's been awful dry, better get a "you-know-what" from the fridge.....ahh....A nice Durango

Wheat beer sure gets the hands working & the lips a-smackin', the bottle tops make a nice wood distressing tool too but they will dull in time, the bottle tops I mean, not the beer effect, so you always need to keep a fresh supply alongside while modeling – I do & recommend it.

Laurie's Durango & Rio Grande Southern Railroad - Australia

Now, where were we? Oh that's right we were discussing styrene. Don't sniff the stuff it's bad for you, no silly not the beer, the styrene glue – it's not good for your health so you need to make wind. Put the fan on I mean, gee - don't light a match anyone!

The glue stinks a bit & can make you eyes water, don't waste good beer washing them out but do be careful & have good ventilation.

The work goes fast if you don't use too much glue, just enough to cover the edge or surface to be stuck to the other part. I used a "000" artists brush & this is a very good way of controlling how much glue gets onto the parts without causing "over-glue" lumps which need rework.

When it comes to cutting styrene there are a few tricks. Score & snap, brand new Exacto blade cut all the way through or chop using a guillotine. It takes you a while to get the knack & the technique of choice but I have found it is sometimes necessary to square up the edge so it mates with the surface it is to be attached to. Make your own sanding block for this. You will need a 6 inch long flat block of wood with a strip of sandpaper glued to it. Make it from a piece of 2 x 1 inch wood & glue the sandpaper to the 1 inch side using contact adhesive so you can use the flat 2 inch wide side as the slider on your table & a 1/8 inch piece of plywood or similar to lay the styrene on while sanding the edge. Now you have another jig that will last you a long time & be really useful. Being resourceful & making little simple jigs saves time but the styrene (or wood) will have a very nice square edge & the abut join will not have any gaps to fill –if it has been constructed well so be proud of your work.

Plastic kits come under the styrene side of things too. They have the same principals as scratchbuilding in styrene but are ready to glue. Well not quite ready to glue, you see the plastic moulds have tapered edges so the piece can easily be ejected from the mould so the edges are not exactly square. But we have our simple squaring jig don't we, well mate, there's no worries we'll just give those kit parts edges a quick lick of our sander & wacko!

FIG.4

So we make a simple structure like the Silverton Depot. Of course we used our metal HO scale rule to measure & as a straight edge to cut the styrene sheet stock but we need to place some structural pieces to hold it square so it will retain its shape. Now I'm not a rivet counter nor do I have time to spend on the "unseen" parts of a structure so I cheat & used 10 x 10 scale inch beams for the inside corners & on the end wall to hold the roof in place. A little extra surface area for the glue to hold on to makes my structures strong & durable – my preference.

FIG.5

The Fig's 4 & 5 shows the model painted, the windows & doors were painted separately & the eaves have the brackets. The wainscot was masked off using masking tape to get a nice paint edge & the styrene roof was painted so the white wood glue used to hold the paper roof shingles had a base to hold to without lifting. I added the signal & made a sign for the end wall per the prototype. Inside was painted a light green as I will be detailing it & adding LED lighting.

FIG.6

The end result as can be seen in Fig.6 & again it has its own little base being 5mm thick plywood with scribed wood sheet

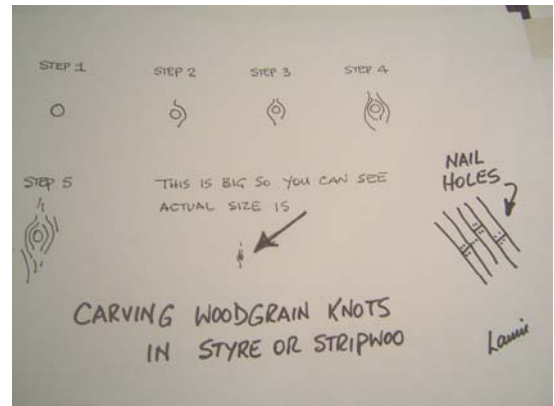


flooring. Because it is near the front of the layout I plan on lifting it up to show-off the interior details later where the ticket office & waiting room will have all these things.

Straight styrene is smooth & we often need to make it look old & time-worn. The term is "distressing". Are you distressed? Better get another DW then & grab one for me while you're at it. How do we achieve a wood grain on styrene you ask? Well there are several ways this can be done. We can use a medium to coarse emery or sand paper & wipe it long ways along the styrene piece the same as the way the grain runs on wood. We can use our Exacto fine saw blade too by holding it at about 45° & with light to medium pressure scraping the face of the styrene. And then there is the Exacto knife blade for doing the knots in the wood grain. Yes, you sit there & carve these by hand into the styrene. My camera won't get this close to show you so I made a sketch. This is not as hard as you think, if you haven't tried it then you must. Go & get a new blade in your craft knife & a 1/8" square piece of styrene like for a trestle bent or similar. Now, make a tiny circle about 1/64" diameter or less in the styrene. Next cut the wood ring around it as per my sketch below.

FIG.7

The first ring can be just the sharp pointed knife blade being twisted on the spot – just gentle pressure & twist the handle of the Exacto knife. Hey its fine work but for foreground models you want to get good looking models well then this is what makes a very good model – lots of tiny detail & texture. We may need nail holes too – as in Fig.7 cut across the boards & push a pin or the same Exacto blade into the styrene (or wood – same effect) & make the tiny indentations. Notice I said use a pin or blade.... Using two different tools gives two different results – more detail that doesn't look exactly the same!



Ah, your thinking about what I just wrote – good, if you want to know the secrets then try all sorts of tools & experiment. Hmm...a pin & a blade, what else could be used to make nail holes? A pin vice & number 80 drill. Now you're catching on. Give yourself a pat on the back & get me a DW.

Styrene is so easy to work to get it to look like wood takes some effort but with very pleasing results. There are many techniques on painting & weathering but it would take an article on its own to do this so let me just say get yourself a double action & a single action air brush & a good compressor with a moisture filter & regulator. Having 2 air brushes may be a luxury but I got mine on sales & second hand hardly used. The double action is a must for weathering models as it can be controlled by the air & paint mix as you work. If you look back at Fig.4 you can see the roof has brown sprayed on the edges – I did this with the D/action & didn't mask off the depot side walls – no overspray got on the walls because the spray was tightly directed.

FIG.8

A general purpose single action air brush is used to paint boxcars etc. The cleaning is far less than a D/Action brush which needs the needle removed & cleaned often so it doesn't gum-up.

I don't prime my styrene as it is white it may take a couple of coats to get the desired colour but that's not a problem. Lighter is better in my opinion.

If you need to do weathering then a selection of good artist's pastel pencils & or powders can be applied & dull-coat sprayed to hold the treatment.



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The weathering in Fig 8 above on the back wall of this RR shed is just a simple use of paint washes & pastel pencils with what I think is a nice effect & has a small amount of texture. Making the structure is half the job, its paint & weathering completes it.

Styrene is a very good surface to add small detail parts to also. I make many of my own castings in silicone to save money. They are not copies of others but rather a “kit-bashed” or scratchbuilt group of details which I can again cut & modify so they don't keep appearing around the layout all looking the same. Subtle differences make a better model & a better layout to view. Before these parts are glued they are painted & weathered as it is near impossible to do such fine paintwork once the details are in place.

FIG.8



Here in Fig.8 you can see many of my castings on the walls & around the floor. This is my Durango Coach Repair Shed with hand laid code 40 rail inside.

The tools of the tradesmen are on the workbenches & hanging on the wall shelf. All of this is styrene except for the roof which is corrugated steel left to rust naturally over 10 years since made.

I think this is my best model I have made but the sawmill beat it – I like it because there is so much detail – SMLed's will light up the interior soon & it will be right near the front to see all inside.

I don't build wooden trestle bridges from styrene – real wood to me is much better.

Well, this about covers the styrene side of structures. Oh, I do keep all my styrene stock in a wooden case so it remains flat & it can be transported to sit on the floor next to where I'm working in the house & can be quickly folded up & stored. Do get into the habit of returning the exact size strips back into the original plastic packets or you will have a real mess. A little tidy up time will make it easy the next time you need a certain size – always work & replace materials back in packs.

FIG.9



My styrene Durango Coal Tower which is scratchbuilt is in Fig.9. You can see the wood-grain carved into the beams. The use of Grandt nut-bolt-washers (NBW) is obvious & they provide the small detail texture to the model. Without these NBW's it would not look anywhere near a reasonable model?

Taking care to measure twice & cut once & making square edges is the trick in styrene. It takes all paints well & is easy to manipulate.

In “Part 2” I will discuss my wood models in detail. Get your fridge full & ready. Laurie.