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the

# MainLine

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National Model Railroad Association Incorporated  
Australasian Region

# Scratch Building in Styrene

## Part I

by Arthur Hayes - MMR

### Why Scratch Build?

There will come a time in your model railway journey, when you will require an item of rollingstock or a structure that is not available over the counter in the hobby shop. Manufacturers of kits and "Ready to Run" (RTR) items only produce big turn over items in order to recover their costs.



Station building built from photos. All structures were built using styrene

Scratch building can give you a large choice of items for your layout to the point where you can construct just about anything you need. Scratch building is not hard, look at the structures around your property, many small parts make one structure. Scratch building a wall from styrene only need to be one piece to make the whole wall, not board by board like many of the structures, which makes your model easier to build. If the side is not going to be in view, why add detail. Sometime down the track after a bit of practice you may like to go board by board to enhance your skills.

Plus, when completed it's your work, no one else has that item making it so special giving you so much satisfaction and sense of achievement, and as a bonus, you learnt some new skills. Once on the layout, it will surely be a talking point.

Materials like wood, brass etc. can also be used for scratch building your models. Today we are looking at using styrene.

**What am I going to do with this Model?** A couple of quick questions will help you decide how you will go about it.

Will it be a contest model? Will it be part of your AP journey? In other words, will someone be looking at your work to value it? If so, you will need to add all the bells and whistles found on the prototype. Yes, they will be looking for detail in your model.

Will it be a display model? Will all sides be viewed? If one side is out of view, why detail it!

Will it be an operational model? If so the wheels will need to turn and the model will need to function with other models and run on your layout.

Will the model be handled a lot? Fine detail may be broken off easily.



Wills, Slaters, Brawa embossed styrene sheet

**What makes a good Model:-** For guidance I will take a quick look at the Achievement Program (AP's).

**Construction.** Consider joints, alignment, attachment of parts, glue marks, etc.

**Detail.** Refinement of the model, detailing, gutters and down pipes, brake gear etc.

**Conformity.** Does it look like the prototype or fit with prototype practices at the time?

**Finish.** General appearance and application of paint, decals, weathering etc.

**Styrene - What is it:-** In one word, it's a PLASTIC type material. Real name is Polystyrene which is a by-product of the petrol refining process. You may find there are differences in some materials.

**Advantages:-** Easy to use, no special tools or skills required. Scope of what can be achieved, Availability, Detail that can be added, can be drilled and tapped for a thread, filed to shape, can be curved for roofs etc. Cost!

**Disadvantages:-** Light, can warp, doesn't like heat.

**What's Available:-** In the early days there was only plain sheets available, but today the sky is the limit. Sheets, .005 thou to .060 thou. Mainly white (Gloss or Satin), other colours are available in smaller sizes. Sheets are available for manufactures at the



fraction of the price than that of the smaller sheets in hobby shops. A

1220 x 2440 x .5 mm sheet from Mulford Plastics, Archerfield, cost \$15.50 (April 2021). This may sound good, the sheet needs to cut up into useable sizes and for storage. If you are like me, there is a good chance when



cutting such a large size, the strips will not be square resulting in some lost. Larger thickness over .060 thou can be found if required.

Many Hobby Shops stock easy to handle size styrene in sheet, scribe and embossed sheets (generally one side only), strips, angles, beams, channels, columns, tees, tube, rod etc. Look for the following brand names, Evergreen, A.M.R.I., Slaters, Plastruct (make sure it is styrene, they also make ABS products (grey in colour) that require different solvents).

Detailing metal and plastic items can be purchased for adding detail to your model. Tichy Train Group and Grandt Line produce windows, doors, nuts, bolts, washers in various sizes, rings, rollingstock parts. Some brand names that could still be around with detailing parts are, Cal-Scale, Detail Associates, Campbells.



Many of these parts are interchangeable regardless of prototype modelled. I

look at all prototypes and scales, it is surprising what opportunities will come your way.

**Tools:-** At the start no special tools are required, as you develop your skills you may find some specialist tools may help to improve production and reduce time required on the project.

**Cutting Tool;** Use what you are comfortable with. X-acto blade, scalpel, single edge razor blade, Stanley knife. (Must be kept sharp). Styrene will blunt cutting edges quickly, change your blades regularly to maintain a good clean cut.



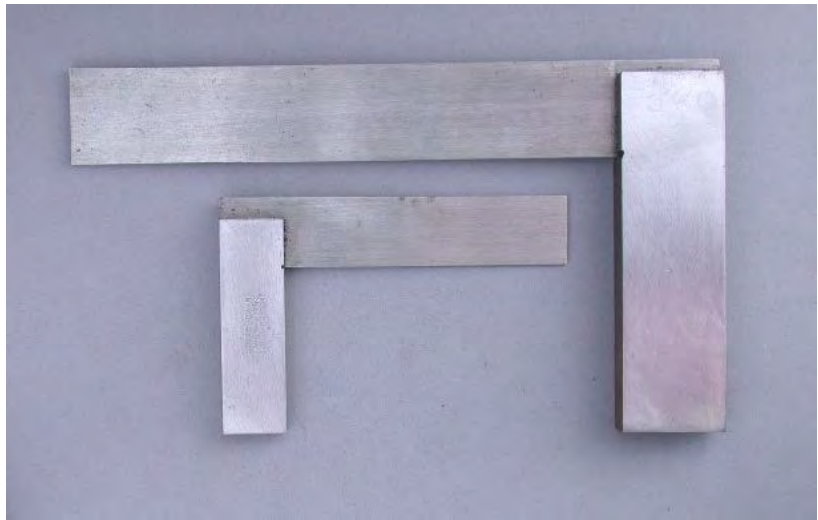
**Straight Edge;**

A steel ruler is OK for most applications. I find the thicker ones are better than the thinner rules.



Less chance of the blade coming over the top and into your fingers tips.

**Square;** Small engineers / machine square are gold. Solid and easy to handle. Micro-Mark sell a thin bladed square that is great for working with styrene. Some squares the base blade finish off at 45° angle, this can be handy for marking that angle. However, if using this type of square for cutting strip ends square, be mindful that the strip is not supported along the bottom blade of the square as much as the engineer square.



**Marker;** Mechanical pencils with 0.5 mm leads are great. Refills are available in various grades, 2B/HB etc. Artline 220 super fine (0.20 tip felt Sharpie) work well to, lines can smear when first done. Remember to remove line marking before painting, they can show up through the paint.



**Cutting Mat;** Self-healing mats are great, they help keep a cutting edge longer and protect your modelling table. Shop about, they can cost an arm and leg, try the craft section of the cheap shops, they also have various colours.

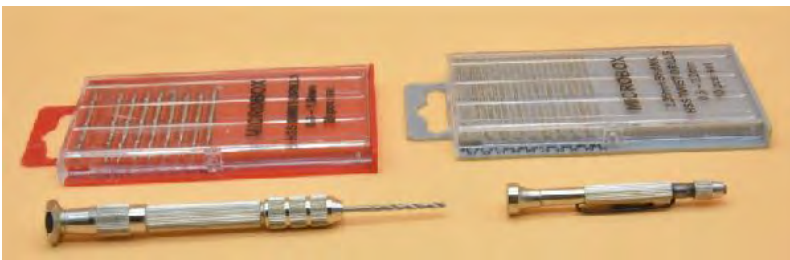
**Finishing tools;** Jeweller's files or something similar to square up the cut for a good joint are handy. Nail Care sets or filing cards generally have different size grit on each side. Various grades of wet & dry paper can be used. Cut into strips it can be glued to a piece of timber and used like a file. The wet & dry can also be used just flat on the work mat.



**Tweezers;** A couple of small tweezers are great for adding detail.



**Measuring tools;** A steel ruler is OK. I find a good pair of Verier Callipers are gold, just remember to use the locking screw. Scale rulers are available in various scales.

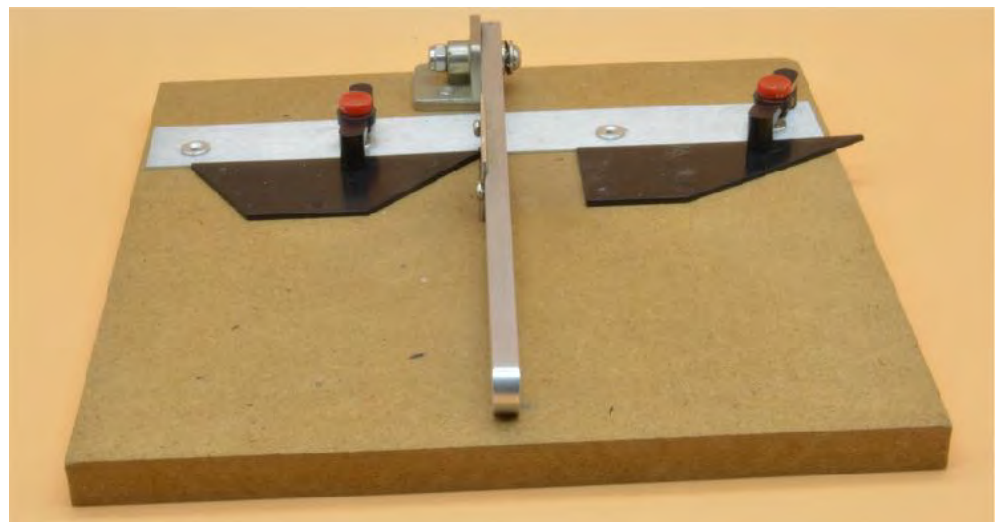


**Drills;** A set of small drills, a pin vice and threading taps if making rollingstock to fit bogies/couplings. Imperial, metric and number drills are available in sets. Different parts of the world use different

measures. It's taken time, but I use metric these days.

**Other tools;** As you advance and grow in the hobby there are plenty of "nice to have" tools.

**Chopper Boards:** They are useful for cutting large numbers of the same length material. A similar tool can be made in your workshop at a small cost.



Micro-mark Chopper with angle plates.

**"P" cutter.** A tool used to cut Laminex, cuts a "V" groove and can be used instead of a cutting blade.

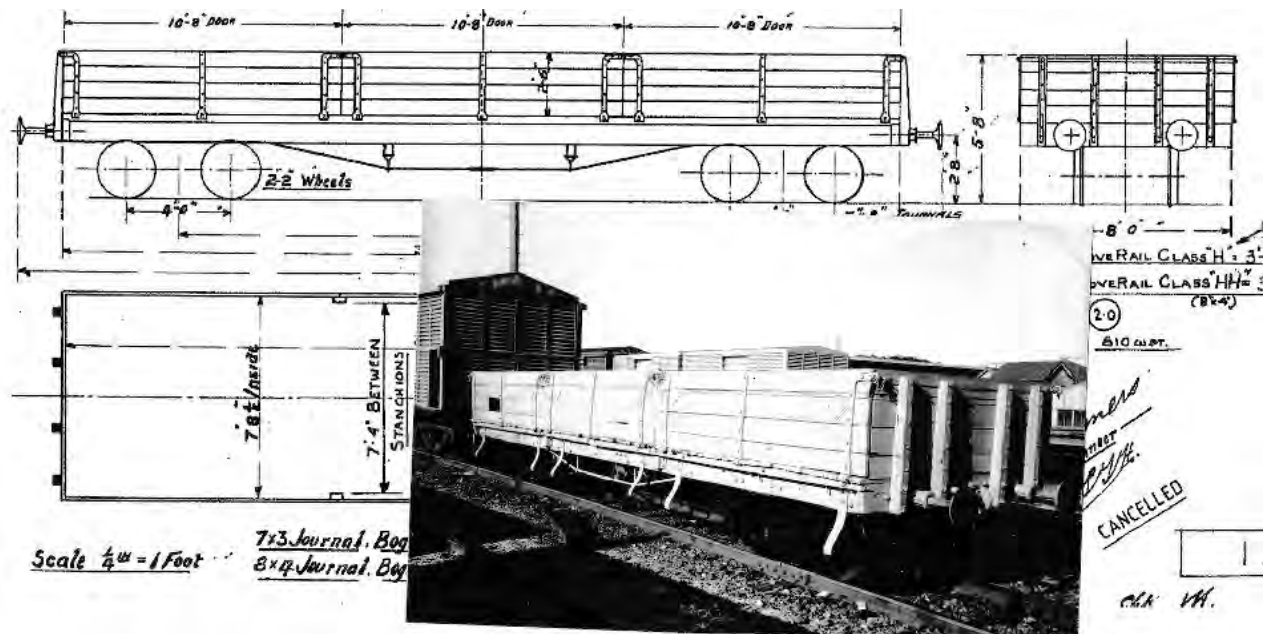


**Sanding Tool.** Assist with sanding and creating angles.

**X-acto saw** and mitre box.

**Application:-** Most models are a number of boxes with bits and pieces added to give that special character. Modelling in styrene make that much easier to do. Be patient and have a positive attitude, until you try something you will have no idea what can be achieved. The more you do, the better you become. Don't be afraid to learn by your mistakes. I think you will be surprised at what you can achieve. Start with a small project.

**Plans/Photos:-** This is the starting point to constructing anything. Plans don't need to be all that great, as long as you have the basic measurements. Photos of the item you are

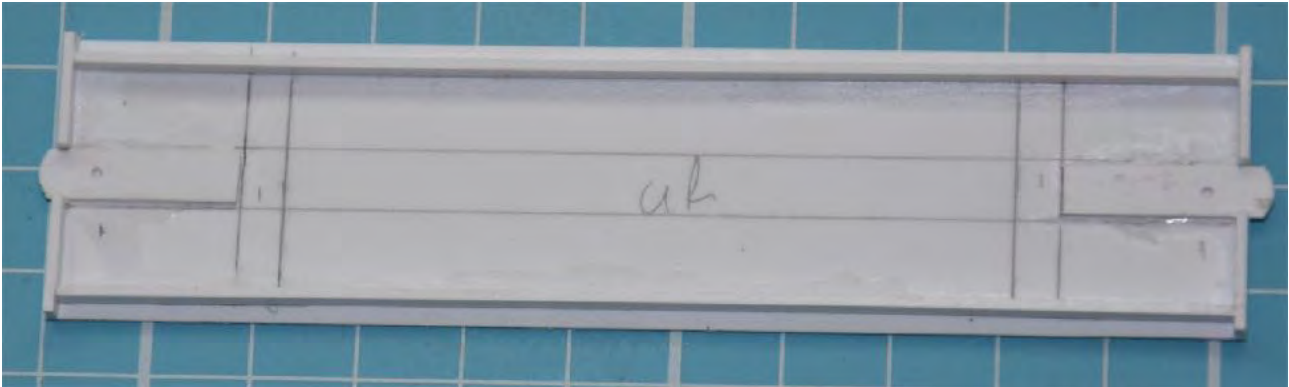


building in the era you want are gold. You may even notice a difference between the plan and the photos in some cases.

**Marking out:-** As much as possible, make out on the inside or underside of your model. Some marking may show up through light coloured paint. Stop for a minute and think about what you are hoping to achieve. Plan how you might go about it. It's hard to draw a line square from a side after attaching components to that side.

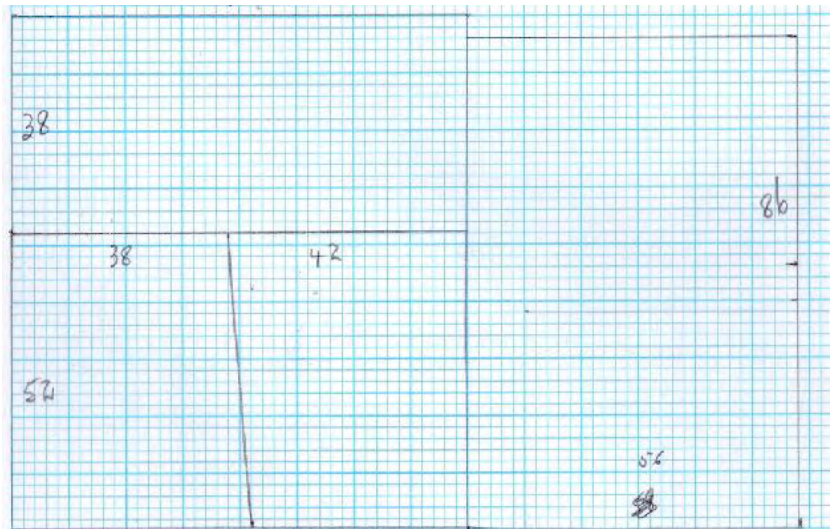


Start with a straight edge to work off, use a square on that straight edge for square corners. Mark that straight edge, just a small cross will do, if the phone rings, when you come back an hour later you will know where you are at.



Underside of a wagon floor. Markings for sole-bars along the side, bolsters for mounting bogies, centre for couplings

It's also worth thinking about how best to cut the various components from the sheet of material. You could end up using less material by drawing it up on some graph paper. A4 Graph Pad with 2 mm squares is available from Officeworks. Scale plans are great for checking you have marked out the correct size.

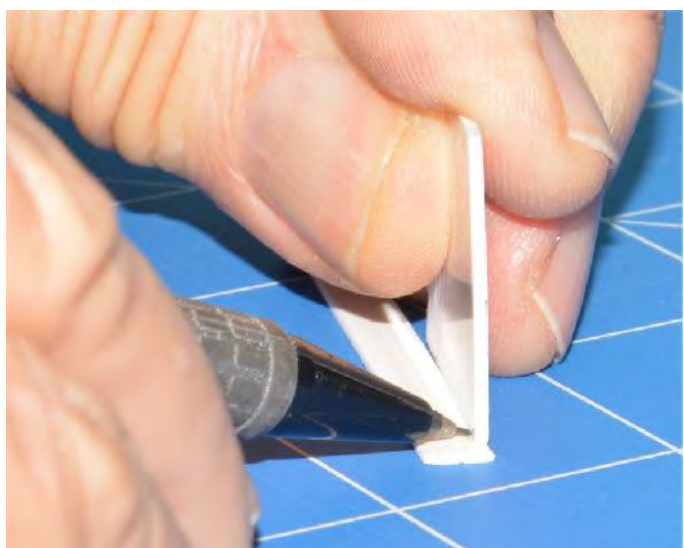


Farm Shed; Two ends, back and roof.

When mounting bogies/coupling and the centre is required, measure across the body, divide it by two, set the Callipers .5 of mm less, measure and mark from both sides. The small gap between the two marks will give the centre.

A small strip of styrene of the required size makes marking small measurements easy.

Strip styrene can be used in a similar way.

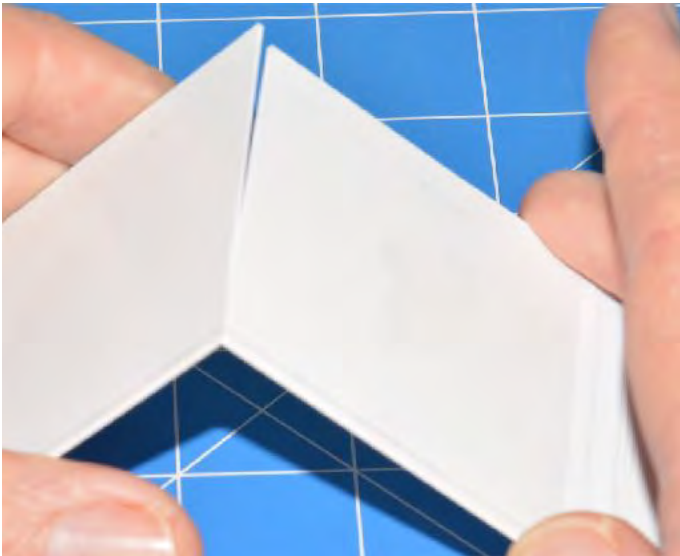


Measure twice and cut once is a good rule that can save you time and money. If cutting out a length of material to go between two other pieces, cut over length and file back to size, make a snug fit without forcing.

**Cutting:-** Mark out what you require using a pencil/sharpie. Sometimes the material may be turned for cutting for a stronger grip or comfortable position. If you do, think about how you made that mark, which side of the line do you need to cut on to achieve the correct size needed. Maybe, mark the waste side to save mistakes. Set up the job so you are comfortable and there is no need to over reach or reach across your body. To ensure you don't run the cutting blade into yourself, pull so the blade stroke runs away from your body to one side or across in front of you. Use a steel straight edge for a cutting tool, make sure your fingers are not over hanging the cutting edge. Anti-slip material can be added to cutting guide to give better grip and assist with accidental movement during the cut.



***Make a number of light cutting strokes to score a groove into the sheet.***



Bend the sheet along the groove and the material will snap along the groove. A light sanding along the cut edge will square up the edge ready for jointing.

Take care with sanding, it can be very easy to round the corners.

Ordinary twist drills can be used to drill holes in styrene, using a pin vice is best. Centre punching the location will make sure your drill will start where you want the hole. Power tools used on a high speed setting will melt the styrene, slow speeds are required.

**Joining Parts:-** There are many solvents available to use on styrene. The two part are held together, using a small brush or an applicator, apply a small amount of solvent along the joint. Capillary action will draw the solvent into the joint. The solvent reacts with the styrene, welding the two pieces together. Always do this in a **well ventilated area**, I suggest you read a MSDS sheet on the product you are using so you develop an understanding of what you are playing with. Most, if not all solvents are **HIGHLY FLAMMABLE** and are **TOXIC**. I use a fan and have the bottle of solvent on the downwind side of me. Some may like to wear a mask, once again do your research, it needs to be fit for purpose.

When joining two pieces together, as much as possible try and place one on the top of the other (**Photo 23**) more so than to the side (**Photo 24**). Solvent will flow through the joint, if one piece is on the side of another, the solvent will flow through the joint and onto the back of the piece sitting on your work mat. There is a good chance your work mat will be embossed onto your new model. For some applications you will find that it is not possible, go easy on the solvent if jointing materials in this fashion. Keep your fingers clear to, if solvent comes into contact with your finger on the styrene, it will leave



Photo 23 - Preferred joint

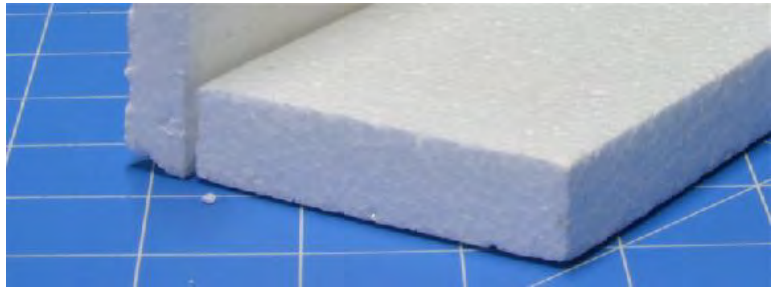


Photo 24 - Avoid this type of joint if possible

your finger prints on the side of your new structure. As much as possible, apply the solvent to the inside of your model.

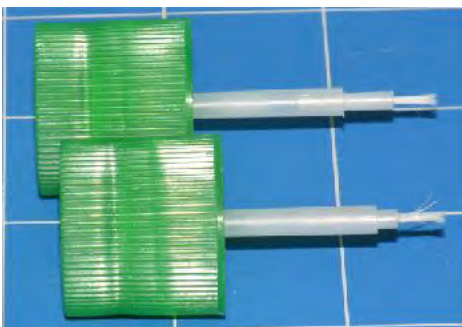
For some jobs, a jig made from wood, brass, or styrene is worth a pot of gold to hold pieces in the required position. Blocks of wood or steel are great for holding parts up for gluing. Jigs can be purchased for setting your corners square.

**Solvents:-** Not all solvents are the same. For many years I used **M. E. K.** (Methyl-Ethyl-Ketone).

It has a very strong odour, everyone in the house knows you have the top off the bottle, I'm aware of a modeller poisoning himself with excess use. The product sets quickly. It's available in bulk from Paint Supply store. Most plastic solvents have it as part of their contents.



Solvent available in Hobby Shop vary considerable and most are



different in some way. Some are made by companies who manufacture kits. Often the styrene in injected moulded kits can be a different material and their solvent is produced to work on their product. Recently I modified a kit by adding a different cab, the solvent I used for styrene sheet didn't work on the kit. Some time ago I was using a kit manufacture solvent on sheet styrene and over time the model became twisted and warped, maybe I used excess

solvent adding detail. Solvents have various properties, thick to extra thin cement. The size of the bottle can also vary from short squat square to taller round bottles. I find the taller bottle are easier to knock over and the brush in the cap is longer making it awkward to use.

Some of the brushes in the cap can be extended as the level of the solvent become lower in the bottle. The size of the brush can vary from product to product.



Excess solvent can distort the styrene, only small amounts are required to fix parts.

Some brand names include Tamiya, SMS, Mr. Cement, and Revell. The Revell bottle has a capped fine tube which I found kept on blocking. Some manufactures make a quick setting solvent.

A holder can be made to assist in keeping bottles of fluid upright from accidental knock overs. A block of wood with a hole drilled in to fit the bottle is quick and easy and could save you a mess to clean up, not to mention the odour waffling around your work table for the next hour or so.



*This one is made from an old stamp pad.*

I keep my used empty bottles to decant full bottle into so when you leave the cap off you don't lose the whole lot. Plus, it helps to reduce the amount of solvent going onto the brush.

*Beware*, if using Plastruct components, check the material type, they also make shapes in ABS (grey) and that requires a different solvent.

**Goo:-** Styrene off cuts can be placed into a bottle with solvent to form a paste (goo) for filling gaps, adding strength to joints etc. Apply to the inside of your model. The more solvent, thinner the goo will be, play around to make the consistency you need. Of late I have using this to add rivets to rollingstock. Shake the bottle, remove the



top, dip a pin or small object into the goo in the cap and convey the goo to the location that requires the rivet. The small drop of goo on the pin can do four or five rivets with practice. The method is quicker than cut out and adding rivet decals. Mostly, I use a small length of 8 thou brass rod, the goo will build up on the end and will need cleaning off as you go. Goo in the cap will dry quickly, this too will need to be cleaned out with paper towel from time to time.

Acrylic paint can be added to the goo to help show up your work, otherwise it is white on white and is harder to see what you are doing.

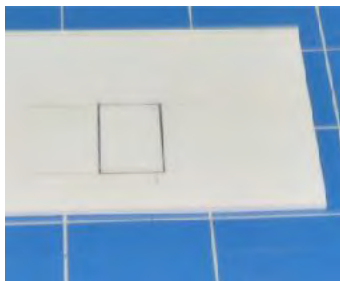
**Putty:-** I mainly use putty for bogging up poor joints on resin kits, however it can also be used when modelling in styrene. Many manufactures produce putty in various sizes and colour, some popular names you could see in hobby shops include Tamiya, Testors, Vallejo and Miliput. Most putties do shrink a little and may require a number of applications.



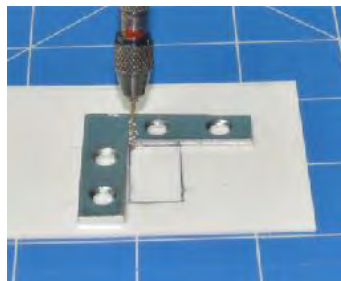
**Windows/Doors:-** As indicated in the intro, various manufactures make windows and doors. The range is huge and a lot of time can be saved by using them. Mark them out before assembling the sides on the inside, use a square, otherwise they may not look right. Measure the back of the window for the



size of the hole required. Mark it out where the window is required. Drill a small hole in each corner, I use a corner bracket to position the drill in the corner. The hole helps not to overrun with the cut, it acts as a stop. Diagonal cuts can assist in popping the unwanted material out. Use a file to square up the cut, insert the window frame to complete the job. Window frames can be scratch built using styrene strip. You may find in different parts of the world, framing of windows can vary considerably.



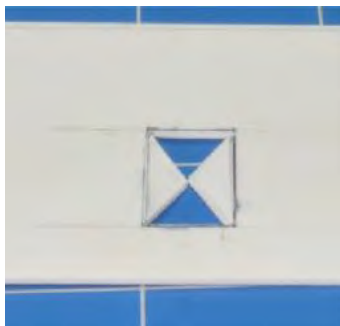
Windows /doors, - Step 1



Step 2



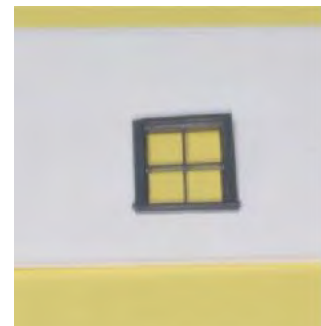
Step 3



Step 4



Step 5



Step 6

**Ed; - Part 2 of this excellent Article by Arthur Hayes - MMR, will conclude in the next edition of MainLine, being the July / August 2022 edition. ....**

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## ***New Articles***

<b>6</b>	<p><b>Scratch Building in Styrene - Part 2</b>                  Arthur Hayes - MMR continues with Part 2 of his article on 'Scratch Building in Styrene'. Last month in Part 1, Arthur explained more about what was needed and in this month's article he explains more about how to build your model in styrene!  <i>by Arthur Hayes - MMR</i></p>
<b>16</b>	<p><b>Motive Power A. P.</b>                  Have you ever thought that you would like to have a go at qualifying for the Motive Power AP Certificate but thought it was just too difficult? Then have a read of this article by Paul Marrant - Grand MMR, as he describes the process he went through to build the three locomotives that he needed to build to qualify for his Motive Power AP Certificate.  <i>by Paul Marrant - Grand MMR</i></p>
<b>20</b>	<p><b>Build a Diode Matrix</b>                  If you have a yard or section of your layout with multiple twin coil point motors and want to be able to push a button on your control panel to align all points for the route selected in your yard, then Erik Bennett describes how to achieve this process in this article.  <i>by Erik Bennett</i></p>
<b>27</b>	<p><b>Modifying the Micro-Mark Uncouple Lite</b>                  Uncoupling Kadee couplers with a wood skewer works well when you can see what you are uncoupling. Ian Barnes found that he needed more light &amp; less brutal method of uncoupling, and he found the solution by marrying a dental Pikster with a Micro-Mark lite.  <i>by Ian Barnes</i></p>

## ***Regular Features***

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<b>82</b>	<ul style="list-style-type: none"> <li>• <b>What's in the Next Edition</b></li> </ul>

### ***the Cover Photo***

*Signalman gives the "All Clear" for steel train 243 to leave Westgate. Rollingstock, Structures, Wagon loads, Lineside detail all made from styrene. Arthur Hayes - MMR.*

*(Ed - Refer to Part 2 of 'Scratch Building in Styrene', commencing on page 6)*

# Scratch Building in Styrene

## Part 2

by Arthur Hayes - MMR

### Curving:

When making rolling stock, many have a curved rounded roof. Consideration may be required if the roof is to be removable or fixed. If you are considering installing lights, a removable roof may be best. To cut out the curved section on the end wall I use the screw top of a jar that's near the correct profile. Scribe around the lid with a pencil to see if you have what you want, then scribe around jar lid with a sharp hobby knife, care to keep fingers out of the way. Supports along the roof will be need to have a uniform roof line.



Curving the roof section can be achieved by fixing styrene sheet on an object that is near the correct size using masking tape. A section of steel pipe that is close to the correct profile is ideal. Some roofs may need a special forma shaped from timber.

Small diameter objects such as dowel or drills can be used to make up wrought iron

work on older structures using styrene strip.

Make sure the styrene sheet is square on the pipe. A centre line on the pipe can be achieved by using a section of angle, or a length of timber.



The full length of the roof section needs to pull tight onto the pipe with the



masking tape. To form the curve, the pipe is placed in hot water. I use a baking dish, boil up the jug and pour the hot water into the dish covering the styrene.

After a couple of minutes the pipe is removed with tongs and placed in the dish of cool water or under a running tap. I do this a couple of times before removing the masking tape. The

roundness in the roof sheet needs to close to the require radius. Trim excess from the curved sheet to the correct size for your roof. Forcing the roof sheet onto the supports with rubber bands etc. and applying solvent works to a point, but over time the supports will be visible in the roof.

Tea bags were added using super glue. Cut the tea bag into strips, stretch tea bag strips across the styrene and apply super glue allowing the glue to soak through the strip.



When making a removable roof, the roof section is made up with a separate base and supports. How you fix the roof is your call, I make it a tight fit which make it easy to remove if required, just don't grab the model by the roof.

Wooden blocks can be shaped to form a pattern to fix styrene for bending for carriage sides.

**Filing/Drilling:-** If filing or drilling is required after a couple of pieces have been joined with solvent, I suggest you wait until the joint is set. Ordinary twist drills can be used to drill holes in styrene at a low speed. Styrene can also be tapped to take a thread allowing screws to fix other parts when needed. I use 2 mm screws to fix coupling and bogies to my wagons, drill a 1.5 mm hole and tap the thread with a 2 mm tap.

**Timber Grain:-** Wood grain can be added to styrene in a few ways when modelling a timber structure or rollingstock. Most timber items are constructed using boards, weather boards or decking etc. Wood grain runs along the boards. Scraping a file, sandpaper or a file card along the boards will scuff up the smooth styrene to give a timber grain appearance.



**Adding other materials:-** On some models you may need to attach another material types to the styrene for the desired look. A structure you are building has a GI roof and grooved foil sheets need to be fixed to the styrene roof. I found Super Glue (CA) works best. Zap is available in a number of hobby shop, they have various types, Thin CA, ZAP-A-GAP is a medium CA+ that has a gap filling formula. It is best kept in a container in the



fridge for longer life. Bunnings and the cheap shops have super glue/gel in smaller sizes for a few dollars that can be used. However, super glue can frost up clear windows. For adding glazing, clear windows etc. Canopy Glue is great.

For many years I have used contact

cement, only to find over time it effected the styrene sheet. The sheet distorts, buckles and can wreck your model.

When you look at shed on farms etc. many have seen better days, with sheets of iron coming off.



I'm not sure if this is the look one is hoping to achieve ???



**Adding small parts:-** It can be frustrating adding small parts to detail a model, you have the part in the tweezers and part flies out joining the frequent flyer club, never to be seen again.

My wife often tells her friends that my hobby is crawling around the floor on all four's with a torch looking for something he can't find.

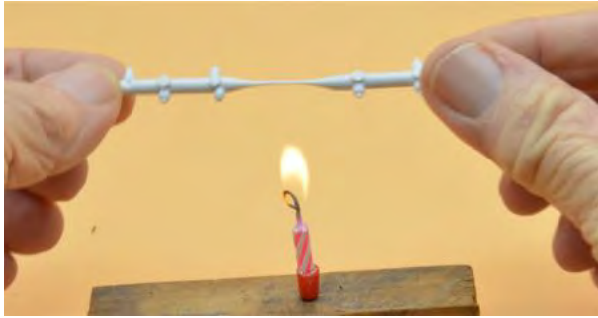
Yes, an apron attached to the bench and me would cut down my time on the floor???

Small styrene detailing parts can be transported from the work mat to the model using the sharp point on the end of modelling blade.

Tap the point of a sharp blade on the part, this will allow you to carry the part to the model.

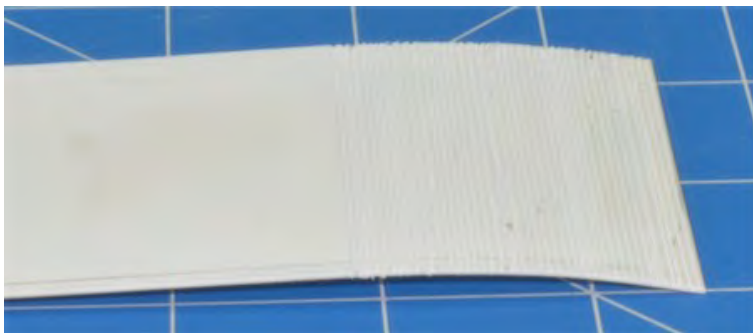


**Laminating Sheets:-** Some applications may require more than one thickness of sheet and other sheets need to be added. When laminating sheets its best to used three sheets, it reduces the chance of distortion that may form some time down the track.



**Round Rod:-** Evergreen / Slaters has rod in various sizes. Rod can be formed from sprue found in plastic kit. Apply heat, a candle will do, when the plastic becomes soft, stretch the two ends until the size required is achieved. Some sprue works better than others. Off cut styrene sheet can be used as well.

**Round Disc:-** Leather punches can be used to make a disc for detailing. A collection of various sizes are useful for this application. Works best on thinner styrene.



**Scribing Styrene:-** Evergreen and Slaters have scribed styrene sheet, it is only scribed on one side and at set spacings. Styrene can be scribed with a cutting knife or a groove can be cut out using a "P" cutter to the required spacing's for that special project. With repeating scribing across

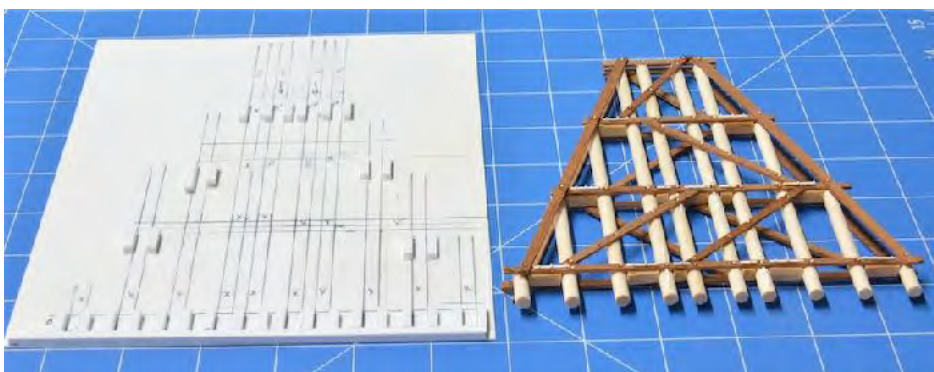
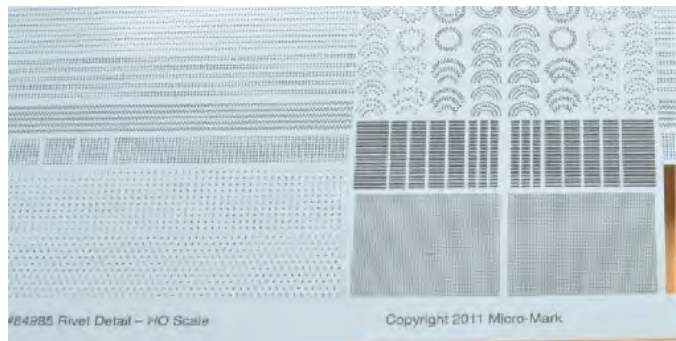
the sheet, the sheet will bow. To straighten the sheet, scribe the other side.

**Detailing:-** One of the key elements to a good model is detail. A number of manufactures make styrene detailing parts that can save you time and make the model look much better. Tichy Train Group is an US company that makes detailing items for structures and railroad cars for the US modellers. Many of the parts can be used for us Aussies modelling Australian Railways. Casula Hobby have HO scale timber framed windows, Wuiske Models have sliding aluminium doors and windows for Australian buildings.

Pins can be used for door knobs, check out Spot Light and the like for various sizes and types. Stainless steel Insect (Ento Pins) are available from .25 mm in diameter upwards, the are good for hand rails with no need for painting. Round rod can be used for door hinges. Staples are good for fixing steps to carriages, various sizes are available. Brass wire is available in various sizes that can be used for hand rails, steps, truss rods, door handles etc. Drill a small hole and secure the part with super glue.



MicroMark and Archer make water-slide surface detail (decals) in various rivet patterns, louvers, grills and safety tread. A clear gloss coat applied to the model is recommended before applying the decal. Once you are happy with the decals and they are completely dry, paint your model in the usual way. Airbrushing is best to avoid a too-heavy application of paint.



**Jigs:-** Styrene can be used to make jigs. At times you may require a number of items all the same size. Take care with solvent if jointing styrene parts in a styrene jig.

### Tips:-

1. Record what you do, part used, size etc. You may want to build another one later. Plus, it establishes a standard for yourself and modifications can be made as to do more.
2. Use only small amount of solvent when making joints.
3. Keep off cuts, often small pieces are needed to strengthen joints etc.
4. Wooden or metal blocks can assist in making good joints.
5. Joints can be pulled apart by applying solvent in the joint.
6. Assemble parts on a good flat surface, a piece of glass.
7. Give the solvent time to set the joint. I often do a number of projects together, move from one to the next and the next before coming back to the first project.
8. Don't force joints, at a later date you may have twisted or warped the model.
9. Paint will highlight poor joints, not fix them.
10. Be comfortable, work in an area with good light and ventilation.
11. Take a few photos along the way, this will highlight errors quickly.
12. If not sure about something, ask someone. If you make a mistake, you know what doesn't work. Try another method or approach. Don't forget, we're here to help you.

**Painting:-** In preparing to paint, remove all dust etc. from the model. Wash the model to remove grease from your fingers and let the model dry before painting. Before applying paint you have not used before to your new model, try the paint on a piece of scrap styrene. Some paints can react with styrene. I recall trying to hand paint my first styrene wagon with "Floquil" paint, the first coat went on, after waiting for a week the paint was still sticky. I found out a barrier should be applied first. Air brushing the paint

was OK on styrene.



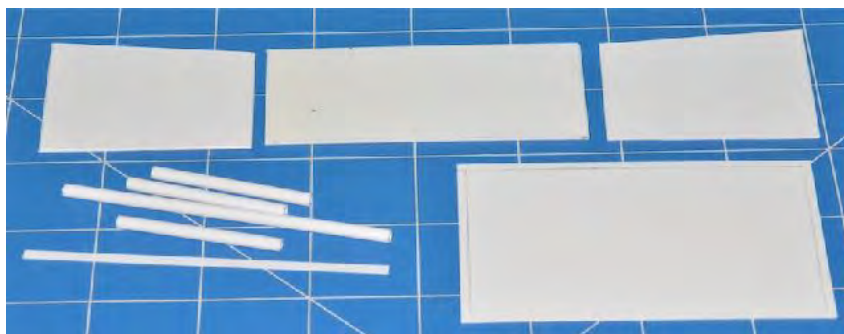
In recent times I have used most paints sold in hobby shops, enamel, acrylic, acrylic lacquer, (or what I should say is Oil), Water and Solent based paints.

Some you will find are for airbrush use only. Some brands I have used on styrene include Humbrol, SMS, tru-color (acetone), Mirotone, Tamiya and Vallejo. All have been with an airbrush. If decals are to be applied, a gloss finish is best. Painting is a subject and an art on its own, but give it a go. In short, all of the above paints have been used with good results on styrene models.

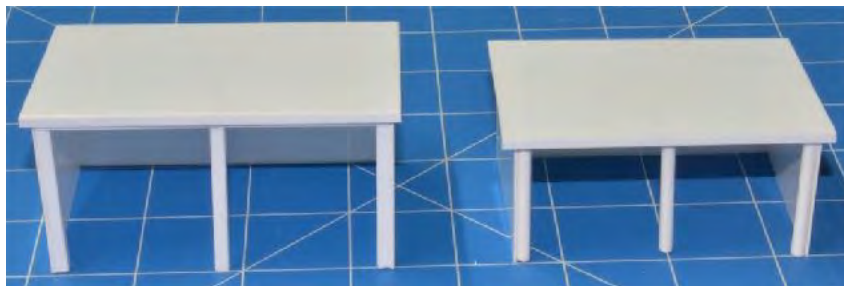
**Scratch building Materials:-** From time to time modellers ask where can they purchase scratch building materials, a list of items I use can be obtained by asking Merv our Editor or me.

**Summary:-** Many hours of fun can produce the elusive model that's not available in the hobby shop, making you the envy of your fellow modellers. Basic methods make it possible to assemble models quickly. Styrene is the best thing since sliced bread to the modeller, the sky is the limit. Plan your model, be patient and be prepared to have a go. If you find things do not work out, try something different and do it again or ask someone for assistance, we are here to help you to achieve your dreams.

Many articles have been written over the years in many magazines, I'm sure you will find various video on YouTube also. I would encourage you to read any articles written on the



construction of rollingstock or structures / buildings, on most occasions regardless of the scale or railroad modelled, you will find it worthwhile and it will improve your modelling skills.



Start small with a farm shed for the layout and experience the excitement of building and displaying a structure you did yourself.



As I do projects, most are posted on my blog detailing their construction. Plus, some can be found at work on the layout on my YouTube channel. The following few pages contain photos of projects that have been completed for the layout with a brief overview on their construction.

Layout:- Westgate SWR

Blog:- <http://westgateswr.blogspot.com/>

YouTube; - [https://www.youtube.com/channel/UCJeqCUO7hR\\_qpV0ruPiMN\\_Q](https://www.youtube.com/channel/UCJeqCUO7hR_qpV0ruPiMN_Q)

Be sure to check out the MainLine Magazine for more modelling tips, the magazine can be found on the Australasian Region Website. [www.nmra.org.au](http://www.nmra.org.au)

Evergreen scribed sheet, plain sheet and strips were used to make this Guard's Van.

Tea bags were glued with super glue to the roof for the canvas look.



The Church was built from a photo.

Weather boards counted to estimate height.

Tichy Train Group windows were used.

Roof removable as building is fitted with interior lights.

Depot was built from photos, wagon used to estimate size of structure.



Plans in a magazine modified so building could fit in the space on the layout.

Stock yard built from styrene strip and rod.

Fences marked out on graph paper, fence was built on the graph paper using double sided tape.



This town hall building was built from a photo, counted the bricks to size the building.

Drawn up on graph paper, made to fit into a corner.

Interior and lights fitted to both levels.

Buildings and the rail ambulance built from styrene. Small projects grouped make a detailed scene for your layout.



This coal stage was built using a plan from the Australian Model Railway Magazine.

For the layout the length was shortened.

Add some detail to give that "being used" look. Figures can bring life to the model.



Styrene can be used to make the interior for your new model, it brings the model to life and looks the real deal.



The wagon was built from Evergreen scribed sheet and strip. A jig was used to build three wagons of the same class.

The model portrays the transporting of hay in cattle wagons during the great Queensland drought in the early 1960's.

Good Luck and Happy Modelling

**We make it even more fun! . . . . .**

