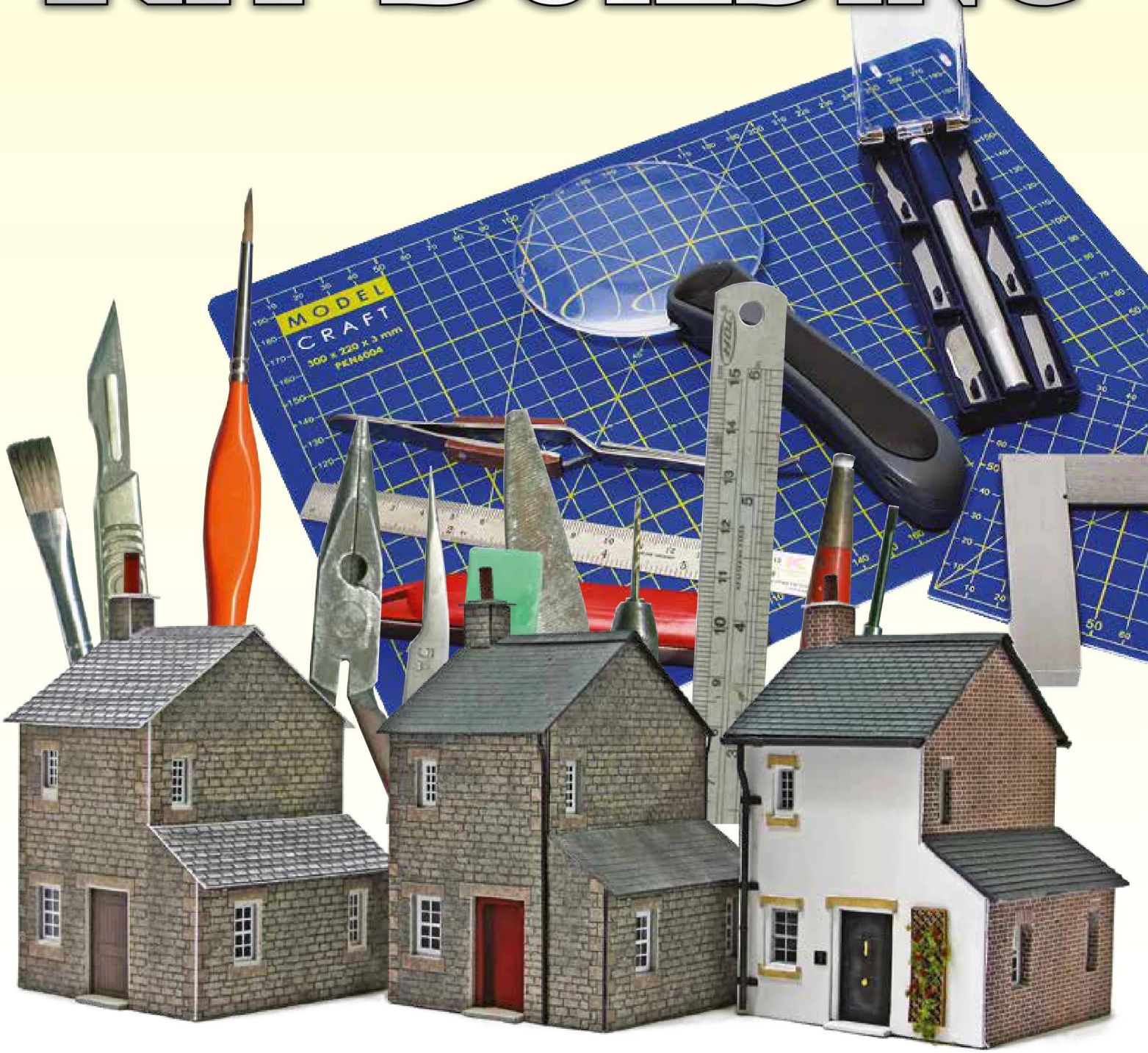
BRITISH RAILWAY MODELLING

BRM

Guide to

KIT BUILDING



BRITISH RAILWAY MODELLING
BRM

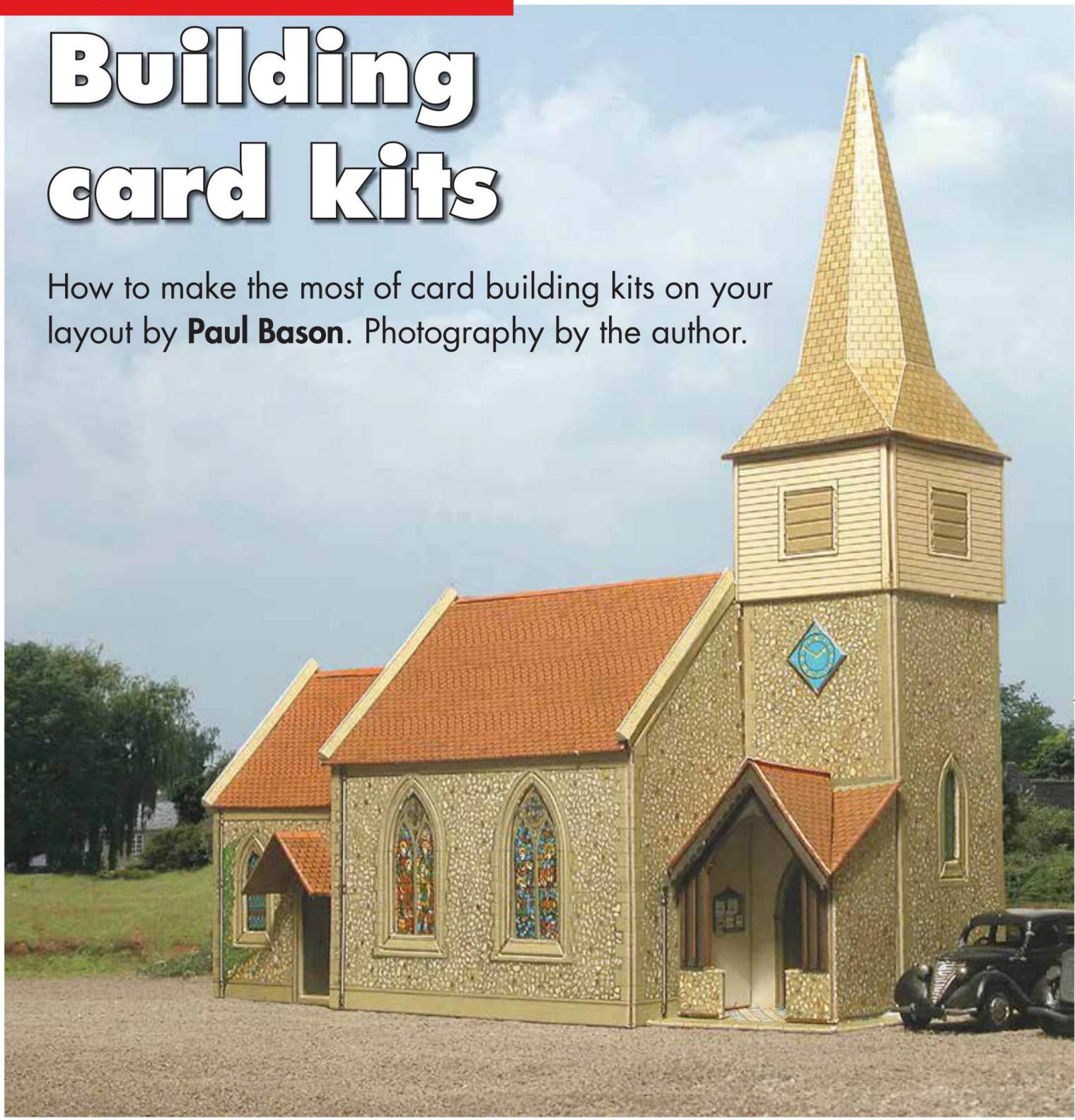
Guide to Kit Building

Contents

Welcome to BRM's Guide to Kit Building. To help create your latest model, we've selected our favourite step-by-step articles from BRM magazine that cover all the essentials. Test them and share your results – we'd love to hear from you.

Building card kits

How to make the most of card building kits on your layout by **Paul Bason**. Photography by the author.



To many railway modellers over the years, card building kits have been the first step away from ready-to-use models that have introduced them into the ways of true kit building. Following successes with easy to build kits like these, many novices have, I am sure, moved on to much bigger and better things in the world of model making.

Manufacturers such as Superquick, Prototype Models, Modelyard, Mainstreet Models, Bilteezi and Howard Scenics all produce card kits of this type and are all worth considering if you fancy a go for yourself. If you see Jerry Freestone's stand at shows, you will soon get a good idea of exactly what is available in scales from 7mm down to 2mm. If you can't get to shows, Freestone Model Accessories has an extensive mail order list which is also well worth a read.

To generalise that all card kits are built in the same manner would be quite wrong, as each manufacturer has a slightly different twist to the basic format but there are some basic assembly techniques that you can follow pretty much irrespective of the make of card kit that you buy.

1 Familiarise yourself with the parts and instructions

I know this may seem obvious to many readers, but reading the instructions before you start will almost certainly reap dividends when you get on to starting your kit. Quite often manufacturers of card buildings provide really good easy to follow, stage-by-stage instructions. In many cases, they are clearly illustrated by three-dimensional sketches, showing just what you have to do to get things right. Having read the directions, closely examine the printed parts and familiarise yourself with the contents of each sheet. If you can, try to visualise what goes where and the order that it is fixed. When you have done this you will be ready to start the kit for real.

2 Removing individual pieces/cutting out

If you haven't yet tried various makes of card kit, you may not be aware that some

Bulding a card kit like Superquick's country church is easier than you think!

varieties come pre-cut, others come partly pre-cut and some need cutting out completely. Whether the card kit is pre-cut or not, you will still need to have a sharp craft knife and some spare blades ready before you start. In addition, a 12" long steel ruler and a decent sized cutting mat will also help you get the best results.

3 Take your time

Even though many modellers buy pre-cut kits to save them the time and trouble involved with cutting out, I find from experience, that it is really worthwhile taking the time to cut through the tiny card 'pips' that hold these kits together in the packet. I admit that even I am often tempted to push out the parts in a fit of eagerness. But if you do, you can easily rip the surface of the card - ending up with an untidy edge that will need trimming. Where parts have to be cut out from the start, it is always best to do so using a new knife blade. Wherever possible, use the steel ruler as a guide. A cutting mat, although not truly essential, does make an excellent base for the task in hand.

4 Windows

When you are cutting out windows, you will find that it is always best to remove the centre of the waste part from the aperture first - leaving a few millimetres of spare material on the waste side of the true line of the opening. This makes removal of the last thin strip very easy indeed, as it has considerably less resistance from the bulk of the card that you otherwise would have to cut against. Another tip when preparing window openings is to cut *away* from the corners of an aperture. This may sound pointless but it really does keep them looking neat and crisp, and avoids the possibility of the knife blade running on and cutting beyond the window into the wall.

5 Scoring and folding

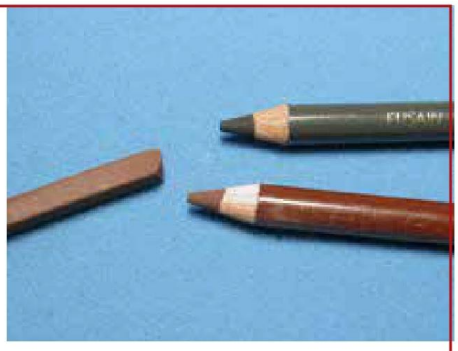
When you get into building kits of this type you will find that most will involve some form of folding to shape around score lines. Although some do actually come pre-scored, most card kits involve the modeller having to partly cut through or score the card's surface in some way or other. This is best done by lightly running a modelling knife along the fold line using the ruler as a guide, making sure that not too much pressure is applied, so you do not cut the part right through. There is a general principle that the score needs to be on the outside face of the printed part to allow the card to be folded back (such as a corner) and, where there is a reverse angle, you need to score the back of the part instead. Where this has to be done, you might need to locate the line by simply making small cuts through the card at the two ends of the fold line as seen from the front. Turn the sheet over and score between the two cut marks. The fold will then be ready to form. If you are not sure or confident, simply try the scoring technique on a scrap of card first.

6 Gluing

When making up kits of this type there are two types of glue that I prefer to use. The first is the readily available white PVA woodwork adhesive, the second is Evo-stik solvent-free contact adhesive. PVA is ideal for all card-to-card joints but contact adhesive is best for fitting things such as plastic glazing, curtains and the like. Similarly the contact adhesive comes in handy if you have any metal parts (like white metal chimneys) to fix in place on a card kit. In theory, being water based, both of these types of glue can, if applied too thickly, cause the paper or card to warp. If you apply the glue sparingly you should, however, have no such problems at all.

A third type of adhesive, a general purpose glue such as UHU or Bostik, is often recommended by some card kit manufacturers. This has the advantage of being usable throughout the whole process but can, if not used very carefully, leave messy strings of glue just where you don't want on the printed surface of your model.

These two types of propelling fibre brush make light work of cleaning up brass or metal parts and can also be used to clean up the shiny surface of resin kits prior to painting.



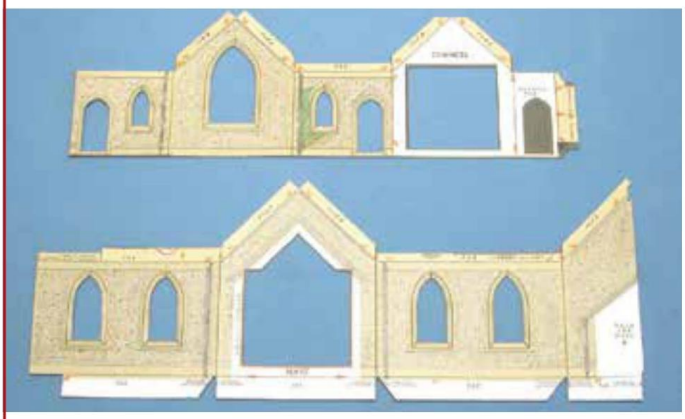
Artists crayons are a simple way of colouring the exposed white edges around window openings and corners of printed card kits.

Woodwork glue or white PVA adhesive is ideal for sticking together all types of paper and card kits.

Rather than use the old (and smelly) brown contact adhesive, this white solvent-free version is very useful for sticking plastic glazing to card, plastic, metal or wood amongst other things.

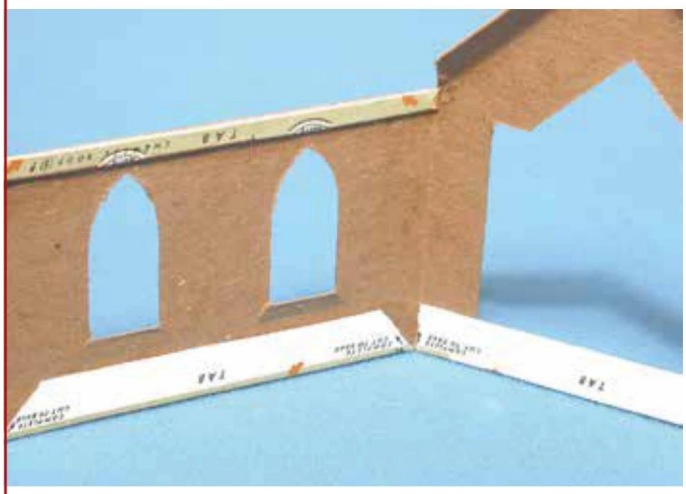
The Superquick kit as you buy it.

The reverse side of the pre-thickened card kit.



The walls are removed from the sheet.

Fold over the tabs and glue.



Note the instructions printed on the tabs.

Assembly starts with the tower.

7 Some useful tips

As already mentioned, kits do vary from manufacturer to manufacturer. Some tend to be very well stiffened whereas others will benefit from a little extra rigidity and support. I sometimes find it beneficial to cut backing pieces from stiff card and bond them to the kit parts before assembly with PVA. Similarly, if there are large unsupported card pieces, these can be stiffened by adding 5mm x 5mm strips of wood, strategically placed so that they cannot be seen from outside of the finished building.

Another handy tip is to colour any exposed cut edges of card using either water-based/acrylic paint or artist's crayons. This doesn't take too long to do, but really does avoid unsightly white lines of untreated cardboard being visible

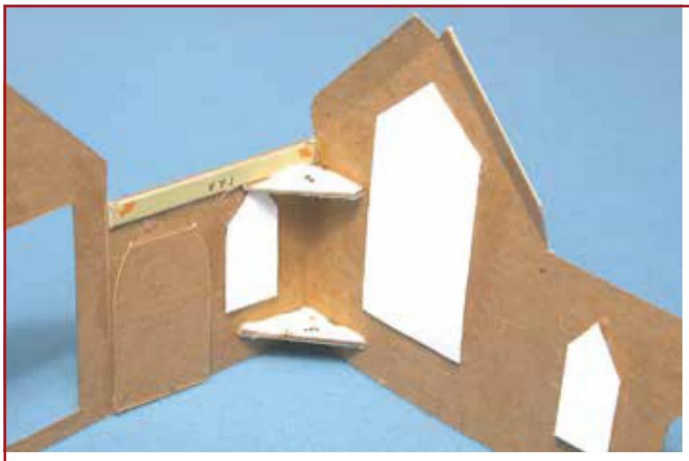
8 Assembly

Having taken a look at the basic principles, we can now see how a typical model is built up. Close observation of this country church kit from Superquick will reveal that it is actually printed on thin card that has already been backed with thicker card for you. In this case all of the main parts are pre-cut, so all you have to do is simply run the tip of a craft knife blade around the edge of each part to release them from the sheet. The remaining, mainly smaller, parts that make up this model are actually printed on the thinner card section of the main sheet and have to be cut to size, scored and folded to shape by the modeller themself. As we have already seen, simply use a sharp knife and a straight edge and you will have no problems

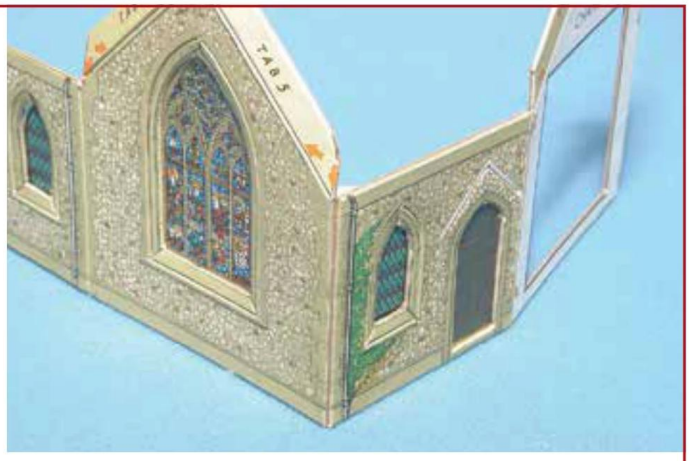
9 Have a go!

Take a look at the accompanying series of photographs and you will see for yourself just how straightforward the assembly of most card building kits really are, providing you stick to the instructions, glue and fold all of the tabs as directed and fix the cornes strengtheners provided in place.

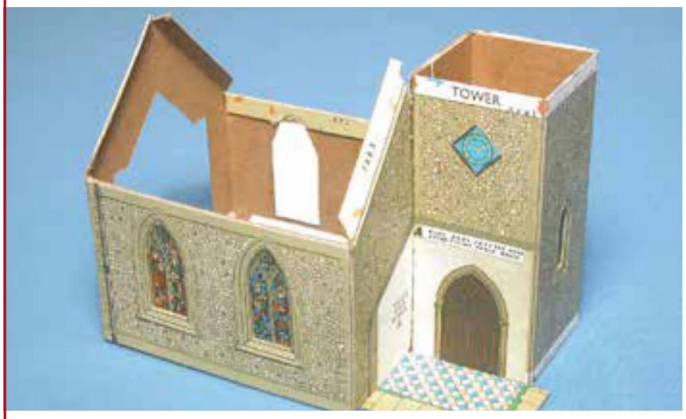
With clear red marker arrows printed on waste areas of card to identify the fold lines, the bending of corners and fixing tabs is really easy to do. The only really awkward, or more accurately fiddly, bit to do in this kit is the folding and forming of the church's spire and its unusual shaped base. As always if you take your time even this is will soon be finished and ready to cap off yet another interesting little



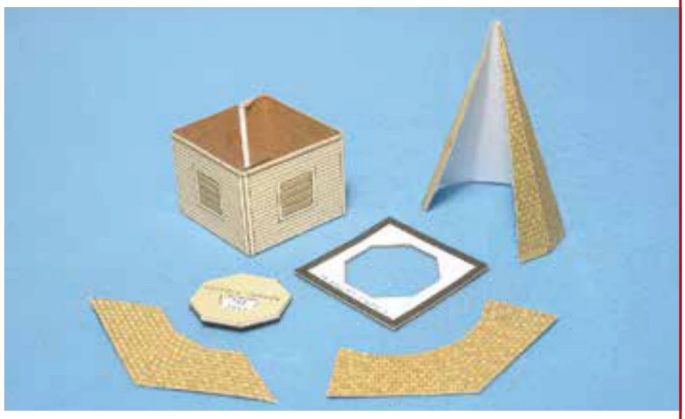
The corners are reinforced with card strengtheners.



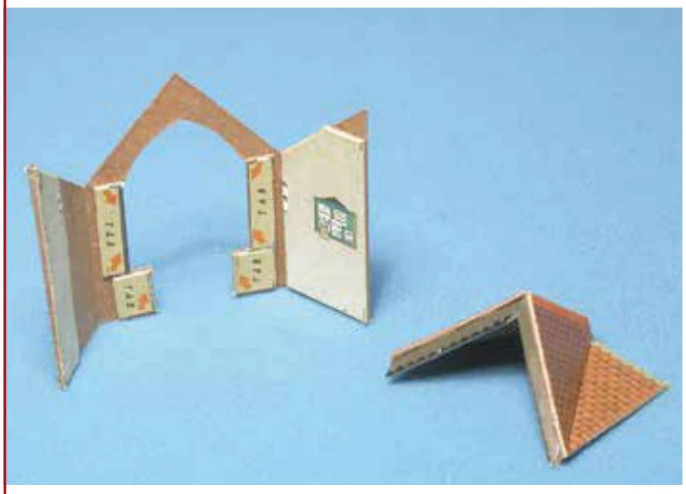
Stained glass windows are fixed prior to assembly.



The tower and chancel are glued together.



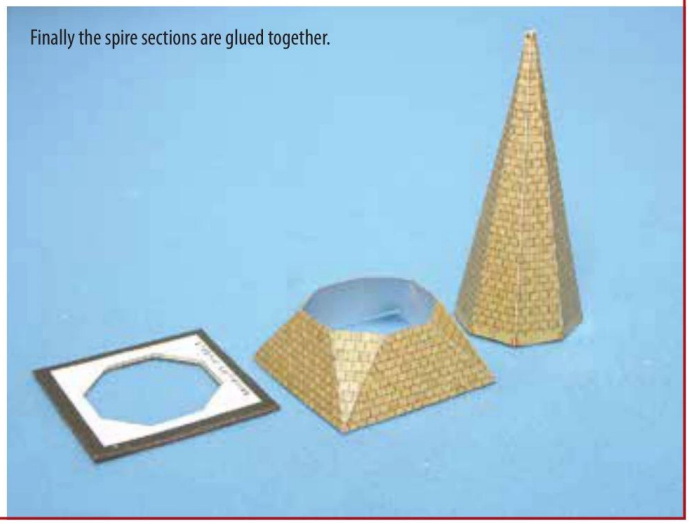
Various parts make up the belfry and spire.



Parts for the porch are made up ready to fit to the main assembly.

The nave and porch walls are added next.

The roof sections are added to the assembly.



Finally the spire sections are glued together.

VARIATIONS ON A THEME

Words & Photography: Phil Parker

Phil Parker takes a modest card kit and shows what you can achieve with a few simple modifications.

Card kits provide wonderfully adaptable ways to make model buildings. There is plenty of choice for a start. No matter what you need – station, house or shop – someone produces a kit for it. Then you can customise the model to make it fit in with your layout. To demonstrate this, I've taken the Metcalfe Models Small Cottage Card Kit - exclusive to **BRM** in OO scale and built it three times.

While the first model is as the designer intended, I've made a few modifications for the second and third iterations. None are particularly difficult and you could pick and choose which techniques you apply to your own model. I think that I've improved the look of an attractive little building, though, allowing it to find a home on any layout.

Everything I've done here can be used on any other card model too. Modifying kits involves a few basic skills, tools and materials. Once you have them, the world is your oyster. Give it a go and let **BRM** know how you get on.. ■

What we used

Metcalfe Models
Small cottage kit - available from world-of-railways.co.uk while stocks last
Peco
LK-78 Lineside building accessories pack (Front door)
Ratio
300 Gutters and drainpipes
ScaleModelScenery.com
LX163 Decorative Trellis Panels
Superquick
D1 Red Brick paper
Wills
S46 details pack (For plastic chimneys)
SSMP203 – Slate sheets

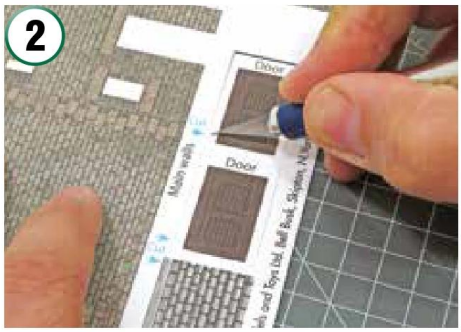
Basic build

For my first attempt, I'm building the model following the instructions.

1

The kit comprises a printed sheet of thin card, some thicker grey card strengtheners and clear plastic printed windows.

2

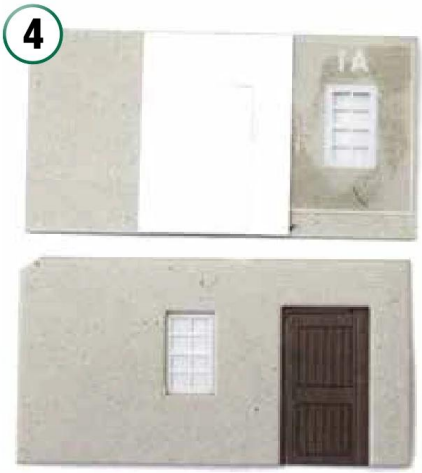


The individual parts are released from the fret by running a knife along the cuts. Arrows on the sheet show where to cut, but I like to run the blade all the way around, just to be on the safe side.

3

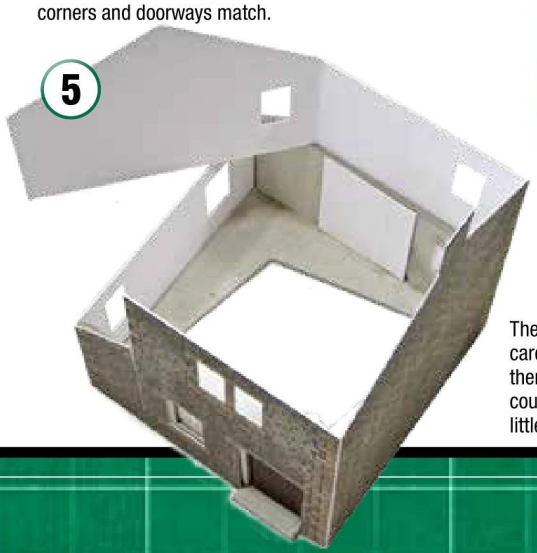
Start by wrapping three sides of the main sheet containing the walls around the floor, which is on the grey strengtheners sheet. A little glue along the edges of this holds the walls in place, but take care to ensure the corners and doorways match.

4



Inner walls have the windows and doors added. These are fitted inside the main walls, making sure they line up with the appropriate holes. The inner walls extend beyond the printed walls at this stage.

5



The extension fits onto the extended inner walls. Take care with the join between this and the main building – there shouldn't be a gap between the two and the stone courses ought to line up. A slow-drying glue allows for a little fiddling to achieve this.

After adding the floor for the top storey, more inner walls are added, then the final printed wall is glued in place. It should locate into the corner nicely, as the strengthener is very slightly shorter than the outer wall.

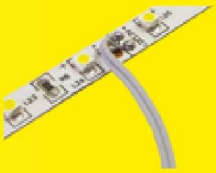
I add a bit of scrap card to beef up the corner joint. Then the triangular supports for the roof are fitted. Make sure the top edges of these are flush with the top of the printed card.

Six rectangles of card are glued together to form a solid block around which the outer wrapper for the chimney is applied. This fits into a gap in the roof support. Finally, the roof sheets are fitted.

Both grey and terracotta colour ridge tiles are provided The chimney is finished off with a couple more rectangles from the printed sheet and a pot rolled from paper cut from the instruction sheet.

EXPERT TIP: ADDING INTERIOR LIGHTS

You might wish to add some lights inside the model. This needs to be planned before you start assembly, but can look really attractive with a little care.

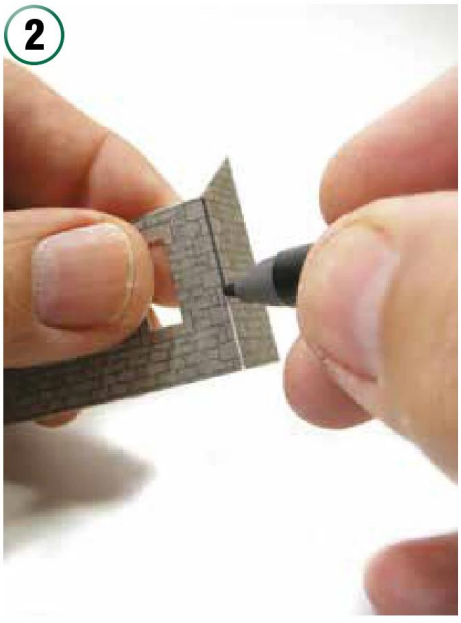


Use LEDs for lights. Express Models (www.expressmodels.co.uk) sells them in strips with 12V connections, so you don't even have to worry about the voltage. LEDs will last forever, so there's no need to provide access for changing them. Since they generate no heat, your building won't catch fire! (continues next page)

Intermediate build

This time, I make the model in the same way as the Basic Build, but with a few modifications along the way.

I scribe along all the lines to provide a bit of texture. Start by scribing the quoins (corner stones), then the top and bottom of the windows and doors. Next do the horizontal lines using a ruler and finally the verticals freehand. It takes a while, but isn't too bad if you don't try to rush it.



All the corners are coloured with a grey felt tip pen, so they don't show white when bent. You could cover these with stick-on quoins cut from card, but this is pretty effective.

I draw around the inside of the windows on the strengtheners and then enlarge the holes to match the printed sheet before fitting into the model. The plastic windows aren't glued in at this stage.

4

Planks on the doors are scribed, which allows me to paint these to change the colour. I leave them slightly ajar, as this adds a suggestion of life to the scene.

5

Matt varnish adds texture to the slightly shiny surface. Hold the can further away than the instructions suggest, and the varnish dries a little before hitting the model.

6

Opening out the windows leaves a slight gap around the printed edge of the glazing. A little white paint inside the model solves this. Don't try to paint the front face, do the back as the painting doesn't have to be so neat.

7

The roof and ridge tiles are scribed and then painted grey (Humbrol 69) before being fitted to the model. When nearly dry, I brush a little talcum powder up and down to give some colour variation to the grey. Downpipes are made from black-painted wire.

EXPERT TIP: ADDING INTERIOR LIGHTS

Thin walls can let light leak out where it shouldn't. Either line your building with thick card, or reflective kitchen foil to block the light.

Advanced build

To be honest, this isn't that advanced, but I have tried to make the cottage look dramatically different from the previous models.

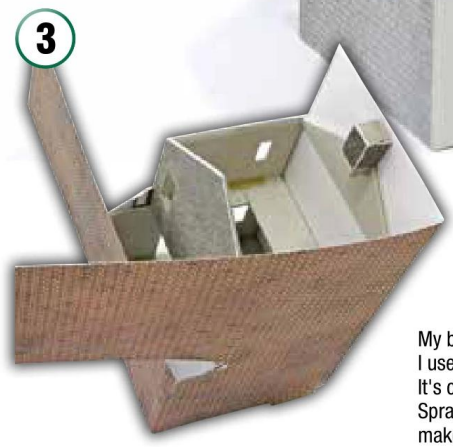
1

Using some Deluxe Materials Perfect Plastic Putty, I fill the gap between the main building and extension. This is sanded down with a very fine abrasive stick so that I don't damage the surface of the printed card.

2

To represent a stucco surface, the front of the building is given several light coats of white primer. Don't use too heavy a spray, as this will soak into the card with the potential for damage. If the gap shows up, a little more filler and sanding will be required before another coat of primer.

3



My biggest change is to wrap the side and back walls in brick paper. I use Superquick weathered red brick, although others are available. It's cut roughly to size then stuck on using a Pritt-Stick type glue. Spray glue also works, but anything too wet will soak the paper and make it crinkly.

Once the bricks are attached, a knife blade is pushed through the window and door holes to make a cross. The flaps are bent in through the hole and glued inside so the edges are covered. Try to get a nice sharp crease around the edges – patting along each edge with a flat screwdriver helps.

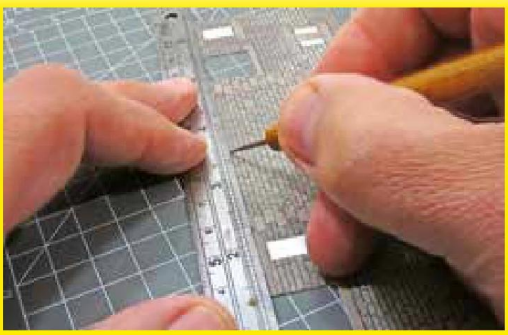
Along the tops of the doors and windows I add some decorative vertical bricks from the bottom of the brickpaper sheet.

The lintels and sills are cut from waste from the printed wall fret, stuck in place and then painted. Care is required to make sure they are level, although the camera makes mine look wonkier than they are in real life (honest).

The roof material is replaced with Wills moulded plastic sheet, with scribed card ridge tiles. This is painted grey and dry-brushed with a lighter shade while still tacky so the colours blend. The chimney is from Wills building and details pack.

The new front door is from a Peco building accessories pack, but it had to be cut down slightly to fit the hole. You could easily make something similar from layers of thin paper and card using a track pin for the handle.

A piece of laser-cut trellis from ScaleModelScenery.com has lines of PVA drawn on it. Into these, some Woodland Scenics coarse scatter is pushed to make foliage. Flowers are red blobs of paint applied with a small screwdriver.



EXPERT TIP: SCRIBING

Scribing card need something pointed and which is not sharp enough to break the surface. My scriber came from Freestone Model Accessories, but a thin and blunt knitting needle would work just as well, as would a fine ballpoint pen once the ink has run out.

Finally, guttering and downpipes from Ratio are added. It's easier to paint these before fitting, as touching up the white primer is quite difficult and the colours don't quite match enamel.

Shopping list

- Metcalfe Models
  www.metcalfemodels.com
  PO236 OO Footbridge
- Wills
  SSMP224 Corrugated Glazing
- Slaters
  English bond embossed Plastikard

MODIFY A CARD KIT FOOTBRIDGE

How did the passenger cross the line? By using the appropriate footbridge. Phil Parker shows that adding this essential feature doesn't need to be difficult or expensive.

Footbridges are an essential part of most station scenes because they are far cheaper to build than subways but serve the purpose of keeping passengers off the tracks and out of the way of trains.

Subways are an easier prospect, since most of the construction is out of sight. Footbridges are more visible and are harder to build, leading to them being popular in both kit and ready-to-plant form.

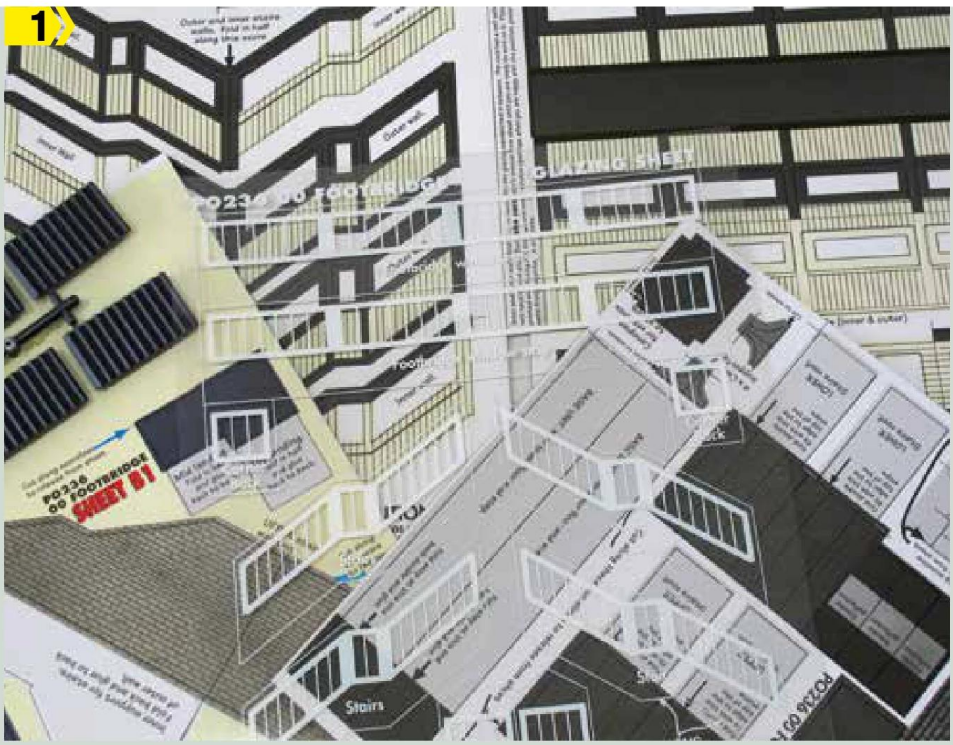
The classic model railway footbridge was introduced by Airfix in 1962. It isn't exactly beautiful, but suits a BR modernisation period layout. It would be out of place in pre-nationalisation days, however. Hornby added a latticework footbridge to its range in the 1980s and it's been in the catalogue ever since.

This month, I'm looking at the budget option in cardboard. It's not a material that easily lends itself to footbridge construction, as they are usually spindly affairs with open sides. This isn't always the case, though. Earlier wooden bridges were both attractive and solid.

Following on from last month's shop, I also had plans to see how far I could go in disguising the cardboard origins of this model. This kit is a superb piece of design. As with all Metcalfe kits, the instructions are excellent, although read them thoroughly before you start. Because of this, I'm only showing the modifications I've made rather than every single step.

The key to the transformation is to add texture, which is an area where card kits are normally lacking. Painting the finished model brings it into line with any other models it's likely to be used with. Card kits are terrifically adaptable. Just use a bit of imagination and don't be scared to make changes to the way the model is supposed to be built, and they can be an economic and enjoyable way to add to your layout. ■

1



The big question, "How do they make the stairs?" is answered as soon as the box is opened. As well as all the usual pre-cut cardboard sheets and some plastic ones for windows, injection-moulded steps are glued to a sheet.

2

Before removing any parts from a sheet, I scribe all the plank lines with a blunt tool. A steel rule is essential, as once the parts are painted wobbly lines will stand out like a sore thumb. Any mis-scribed lines can be erased with fine model filler.

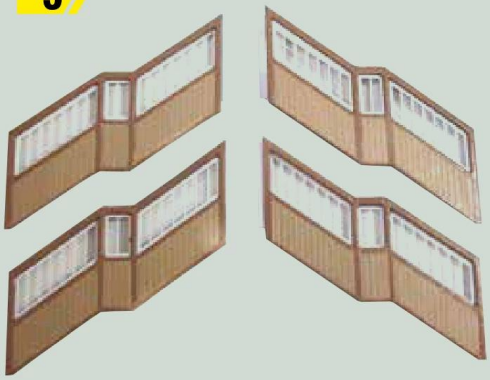
3

Ideally, the handrail would be made from metal rod with intermediate supports. This would be very fiddly and, more importantly, hidden from view, so I'm using 1.5mm square strips of wood to give 80% of the effect for 10% of the effort.

4

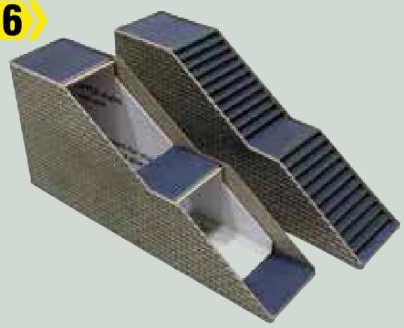
Still attached to the sheets, all parts are painted with Railmatch enamel paint in GWR dark and light stone colours. The scribed lines now serve two purposes, making the planks obvious and, when painting along the line, keeping the colour separations nice and neat.

5



Most of the parts are printed on self-adhesive card. The backing sheet is peeled away, the glazing put in place and then the inner walls folded back against the outer forming a sandwich. I find the adhesive isn't very strong, so I added a few spots of clear all-purpose glue.

6

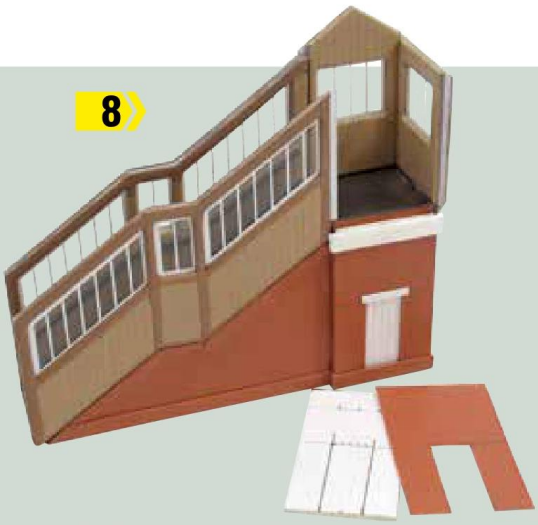


Assembling the stair units is a pretty simple. Be careful to put everything in exactly the right place and those plastic stair units drop in perfectly – just a little glue is needed to hold them down.

7

Slaters embossed Plastikard is glued over the printed blockwork. Slight gaps under the wooden stair sides are covered with strips of decorative brickwork fixed with plastic glue.

8

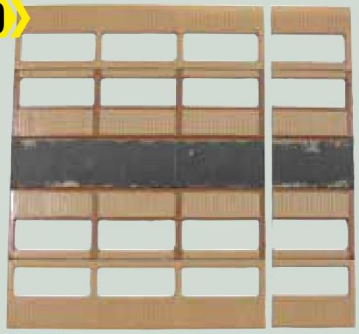


There should be some substantial lintels under the bridge. Prototype photos suggest these included a door to access storage space. To model this, a single layer of 2mm thick card with a door scribed on the surface is covered with more Plastikard.

9

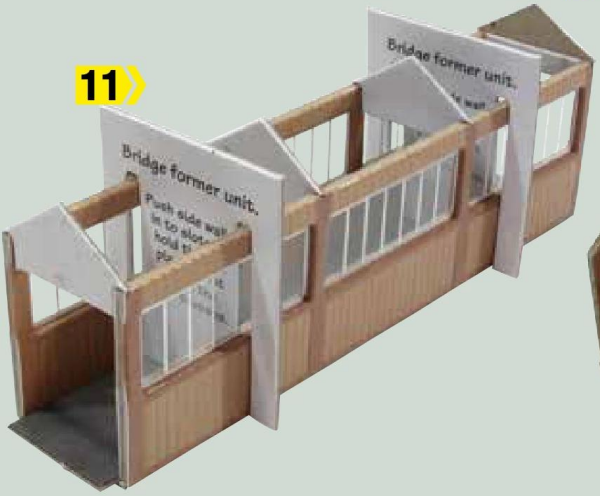
Brick painting is carried out using my usual method – painting the walls a mortar colour (Humbrol 121) and when this is dry, rubbing pencil crayons over the surface. Since this is a new structure, I've not used any weathering powders. Once on a layout, I'll add a bit of dirt.

10



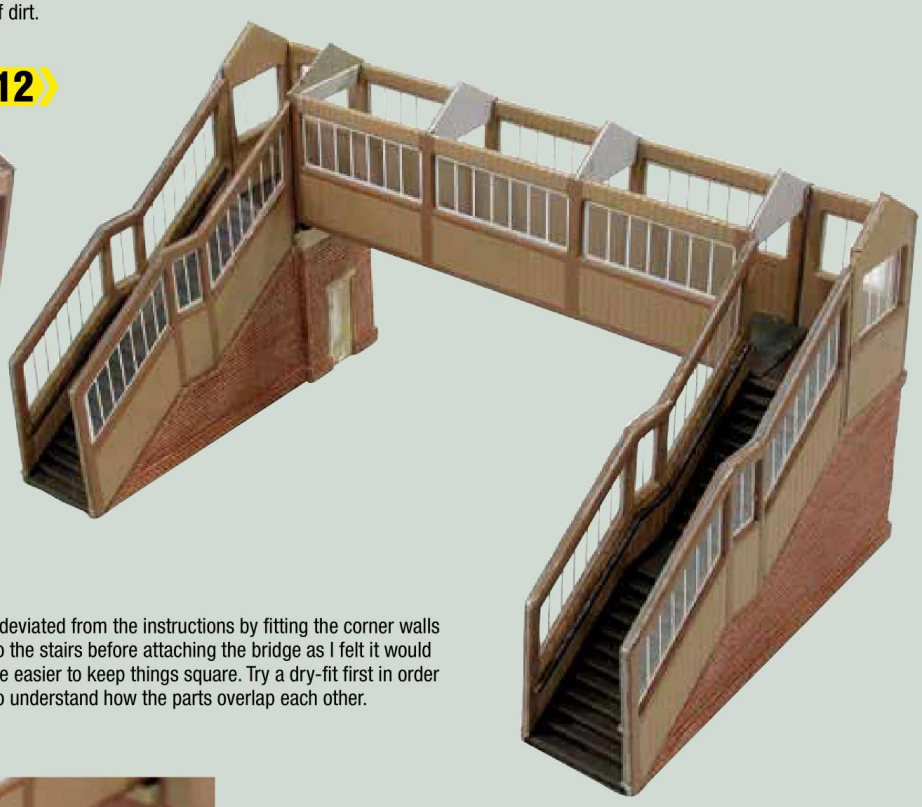
The bridge is wide enough to span three tracks. If the track is only double, a bay is cut from the end before assembly. Should a longer span be required, additional kits can be joined together.

11



Forming the bridge walkway is made easier by the inclusion of a pair of guides that slot over the walls to hold them in place while roof trusses are glued in. The separate floor panel should extend an equal amount from each end.

12



I deviated from the instructions by fitting the corner walls to the stairs before attaching the bridge as I felt it would be easier to keep things square. Try a dry-fit first in order to understand how the parts overlap each other.

13

Some 1mm square strips of plastic add a bit of relief to the flat roof pieces over the stairs. You could cover them with some material to represent felt. Fine masking tape might work, but I decided that there would be enough texture once everything was painted.

...footbridges are more visible and are harder to build, leading to them being popular in both kit and ready-to-plant form

14

Bricks printed to match the Metcalfe range are available in Builder Sheet packs from the company. Each contains four thin and four thick brick card sheets which include useful curved lintels and roof tiles.

Expert tip

As I'm not joining several bridges together, I used the spare parts supplied in the kit to check how the scribing and painting would work. I wasn't sure if the card would need to be sealed with varnish to stop the paint being absorbed too fast. As it is, there's no need and paint can be applied straight to the surface.

Making up test pieces like this is always worthwhile if you are trying a new technique. It's better to find out on a few scraps of material that something doesn't work than on the final model!

Get involved

Inspired by this project? Buy a card kit and share your transformative efforts by creating a topic on our forums at *RMweb.co.uk* for a chance to win a prize from the **BRM** 'goodie drawer'

SKILL LEVEL 1 - BEGINNER

HOW TO BUILD YOUR FIRST PLASTIC KIT

Words & Photography: Phil Parker

Plastic kits offer an economical and effective way to add architecture to your layout. What's more, they're easy to build, as Phil Parker now demonstrates…

Looking at the wonderful models shown every month in BRM or at exhibitions up and down the country, it's tempting to think that the creators of these masterpieces possess magical abilities. They don't, it's just that they have had lots of practice and more than a few models have passed over their workbench. Everyone has to start somewhere, though, but what was their first kit?

For many, it will have been a classic Airfix kit, from the range now sold by Dapol. Their kits for model buildings are perfect for OO gauge model railways – easy to assemble and very useful prototypes.

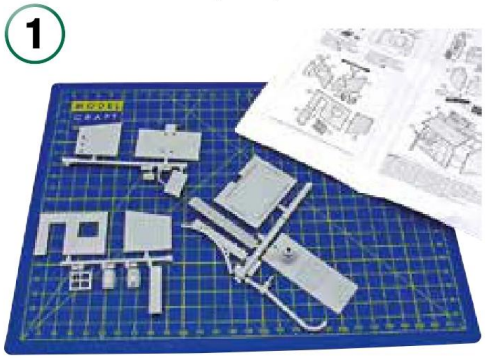
We don't think there is a better starting point than the platelayers' hut, which is part of the "Trackside Accessories" pack. It's a model that any layout can find space for. It goes together well, but if you don't do a perfect job it will still look fine.

Dating from the mid-1950s, the kits still stand scrutiny but to preserve the moulds, the parts are produced in a soft plastic that cuts easily but can result in a little excess material called 'flash' which needs to be cut or sanded away for a perfect fit. Don't worry, this happens with many plastic kits and is so easy to deal with that it won't stop even a beginner. However, it will provide valuable skills for the future.

One of the benefits of building a kit over buying a ready-to-use model, apart from the pleasure of creating something yourself, is price. The Trackside Accessories kit costs less than the price of a single resin hut, but provides two huts, a water crane and a loading gauge. All are perfect for steam and even early diesel era models.

The job isn't even very time-consuming. Building this model will comfortably take less than an evening's modelling, so you'll see results nice and quickly. ■

1

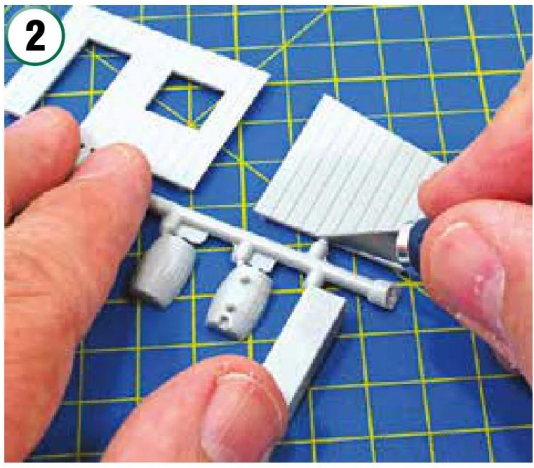


Spend time with the instructions, working out which parts on the plastic sprues are for each model. Most pieces for the hut are grouped together, but the roof is with components for other models. The exploded diagram is worth studying to get a feel for how the building goes together, it's not complicated but you don't want to be trying to work things out once you've opened the glue.

3

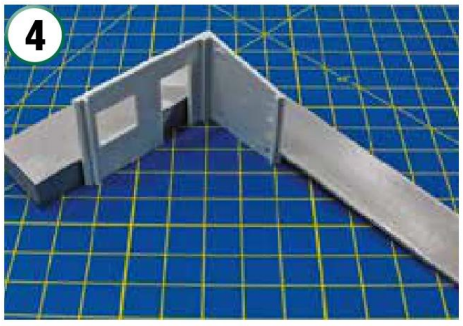
Remove any little nibs left from the sprues using the finger sander. Rub along the length of the part, not across it. We want to smooth the edge, not sand a groove in it.

2

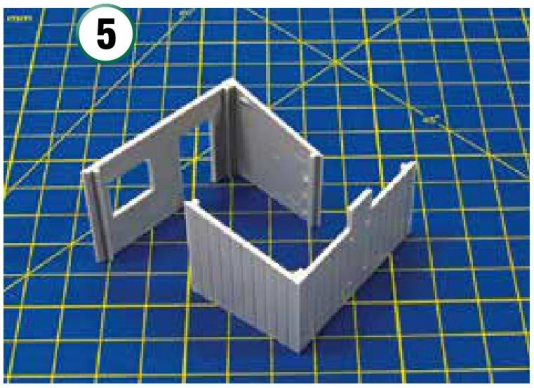


Carefully cut each part you require from the sprue with the knife. The plastic is soft, so it should cut easily. Don't worry about trimming right up to the edge, as you might damage the part. Keep everything in one place on your workbench and put all the parts for the other kits back in the bag so you don't lose them. Trust me, it's easy to do that!

4

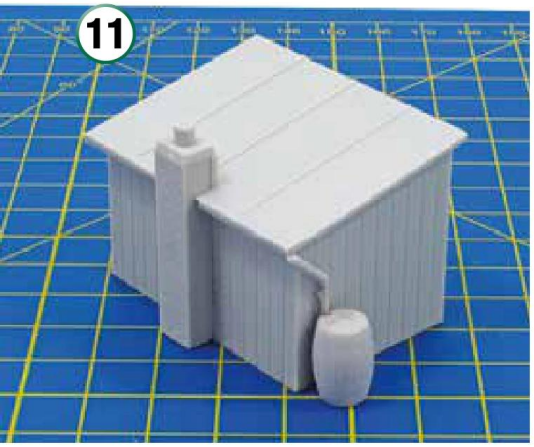


Test fit one end and the wall without glue. This is called a 'dry fit' and is important to check that everything fits together properly. If it doesn't, look at the join and see if there are any tiny bits of plastic getting in the way. Gently remove them with the knife or sander. Once happy, apply a small amount of glue to the join and use the square to make sure the corner is a proper right angle. Leave to dry.

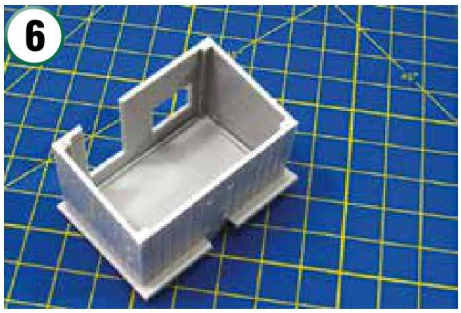


Make up the other side and end in the same way and leave it to dry. This means that when you bring them together to make up the building, the next step, you don't have to juggle several joints at once, as everything should fit pretty near perfectly.

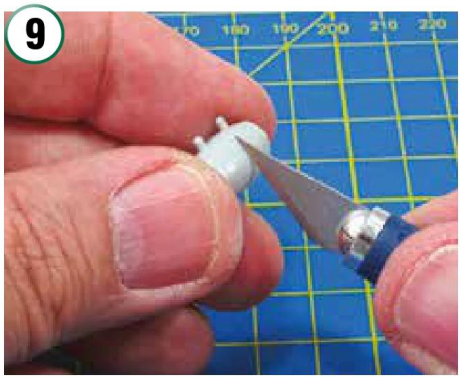
Join the two halves of the water barrel together. There will be a visible line across the top, but once the glue is dry, sanding the top surface hides it.



The chimney stack and top fit on the back of the hut using the locating holes and pegs provided.

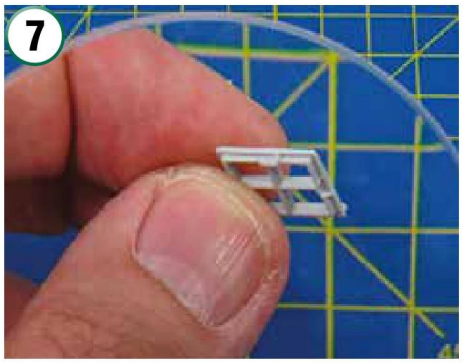


The roof fits on top and the raised ridges underneath should both locate it in position and keep everything square. You might need to clean out the cut-out where it fits around the front of the chimney stack for a good fit.



Looking at the barrel sides, the join was also pretty obvious, but scraping the knife blade gently along the join (hold the blade at 90 degrees to the join and move it sideways) several times helps to disguise this.

Finally, fit the window and door. I like to leave doors on a model slightly ajar. It looks more natural and hints that there are people going in and out. The model is now ready to paint.



While checking parts, the magnifying glass is a great help with this, I noticed that there was moulding flash on the back of the window frame. It only takes a few seconds to sand away but ensures this fits in place properly. It would be easy to miss this, but sorting it out now makes building the model much easier.

Feeding water from the roof into the barrel is the drainpipe. This fits under the roof and into the back of the barrel. Unless you have very tiny fingers, using the tweezers to locate it in place makes the job a lot easier.

3 Handy hints

1. Only cut parts from the sprue when you are ready to fit them. Less chance of losing something!
2. Use as little glue as possible. Any excess will just splurge out from the joins.
3. Always use a sharp knife. It's safer, as you won't try to use lots of pressure to cut anything, only to slip and cut yourself.

SKILL LEVEL: BEGINNER

HOW TO BUILD AN LNER PLATE-LAYER'S HUT

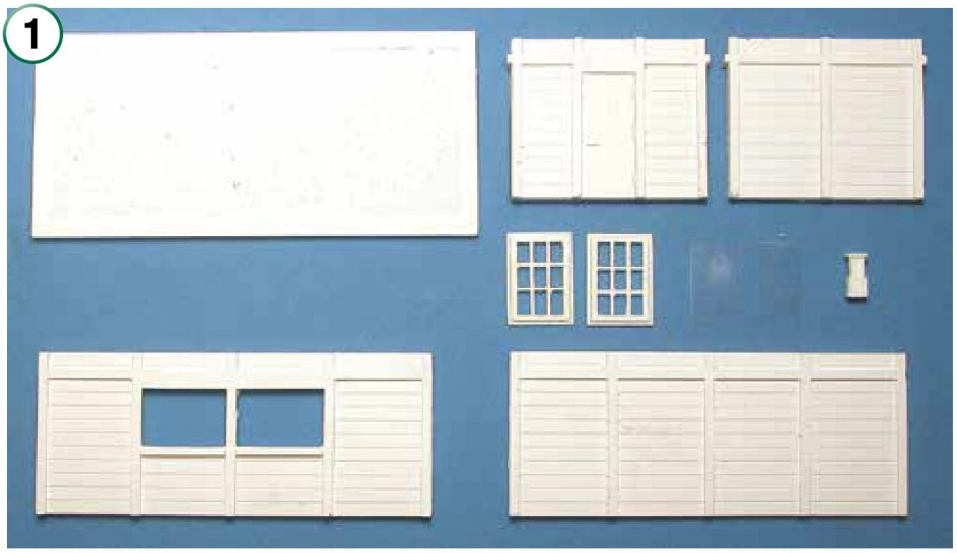
Words & Photography: Paul Bason

Paul Bason takes a closer look at this plaster-cast kit of a lineside building that saw extensive use.

The use of pre-cast concrete for railway structures isn't new. William Marriott of the M&GNR was seen as an early pioneer, employing it for a range of lineside uses. Many railway companies didn't see it as a solution for quickly and cheaply replacing time-expired lineside timber buildings until after WWII. The LNER was no exception and the subject of this feature covers one variation of the standard factory-made panels that could be moved around in 'flat pack' style by rail and craned and erected in their final positions on pre-constructed in-situ concrete bases in a matter of hours.

Many readers will be familiar with making card and plastic kits. Plaster-based material is popular with modellers who want something that looks realistic, yet is simple to assemble. In this instance the subject is an O gauge version of the same LNER platelayers hut that Ten Commandments produces in N and OO scales. The pre-cast concrete prototype lends itself well to the cast approach and is simple to construct.

The kit goes together very well and makes an interesting lineside addition. If you've a small space on the layout and fancy something different, have a go. ■



1

Opening the box and carefully unwrapping the contents, these are the finely-cast plaster parts you'll find. If you look carefully you'll see that the casting process can leave flash around the edges. Take a small file and carefully remove any surplus material you find. A quick rub with fine wet and dry paper, and you're ready to commence construction.

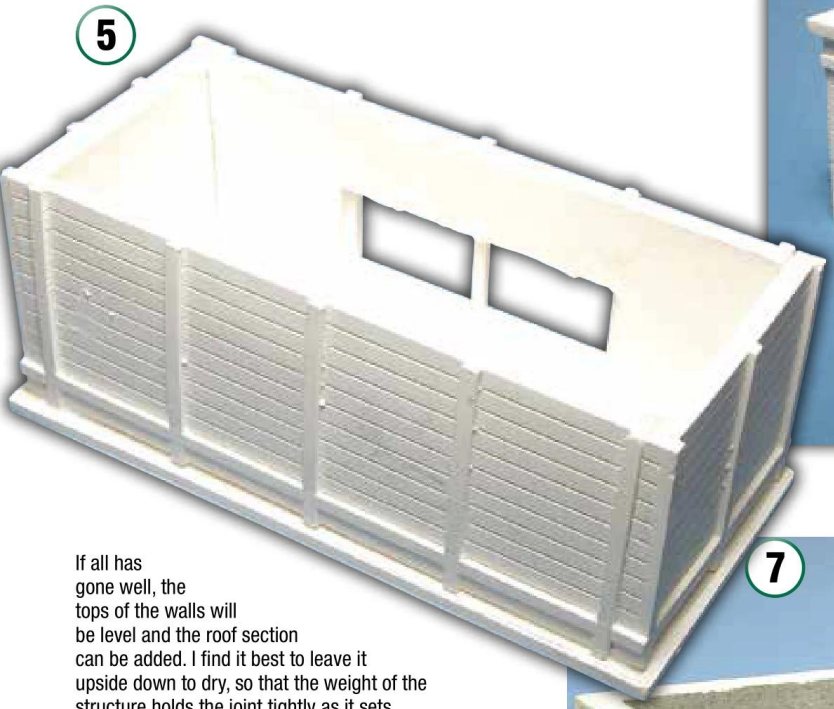
2

After familiarising yourself with the parts and having a 'dry run' through the assembly process, it's time to get started with assembly. I'm fixing one of the long walls to one of the ends using PVA adhesive. Spread the glue onto the parts before they're positioned together. I use a small engineer's square to ensure they're in perfect vertical alignment and at right angles to each other. Let individual sub-assemblies dry thoroughly before adding the next section as the building takes shape.

Discover more about the history of concrete structures. Visit www.brmm.ag/ConcreteHuts

Repeat the first stage by sticking the other two walls together. If you're unsure, build up the back of the model first. This way, the front will be second nature to construct.

Once the glue has dried the two sub-assemblies are brought together and fixed. Check everything is square.



If all has gone well, the tops of the walls will be level and the roof section can be added. I find it best to leave it upside down to dry, so that the weight of the structure holds the joint tightly as it sets.

When the adhesive has set the hut takes shape and is now ready for the cast windows to be fitted and glued.

A prototype pre-cast modular concrete building, at an unknown location, still in use today – such is their versatility. KEITH PARKINSON

Paint the model with Humbrol, Revell or Phoenix Precision ranges, suitably thinned with white spirit. If you have them, matt acrylic paints are okay too. Also, light weathering makes a tremendous difference to the model. Once the paint has dried, the clear plastic glazing supplied can be fixed to the plaster using something like Evo-stick solvent-free contact adhesive. Job done!

A KIT-BASHING ADVENTURE

Assembling plastic kits is great fun, but ranges are sometimes limited. If you're feeling more adventurous, scratchbuilding aids are a good option, as Phil Parker explains.

The Craftsman series of kits by Wills bridge the worlds of 'kit assembler' and 'scratchbuilder'. Each includes all the materials required to build the model shown on the box front, some of which are standard plastic material sheets from its range. Plans are included, but the builder has to cut out the parts.

It's takes a little more time than a pre-cut kit, but allows for great flexibility. Since the wall and roof materials can be bought separately, you can modify the kit and no-one will see the joint. There aren't step-by-step instructions as such, just nice exploded drawings and general notes on working with the materials. Building these kits takes a little effort, but nothing too difficult.

As supplied, the single-road engine shed is an attractive stone building based on the one found in the Cotswold town of Tetbury. It's a clever GWR design, with the water tank positioned above the chimney of the resident locomotive so that escaping heat prevents the water from freezing.

While pretty, I'm more of an urban modeller so brick is more appropriate than stone. This isn't a problem as a couple of packs of Wills brickwork can be substituted for the stonework in the kit. This won't go to waste, I'll stick it in the spares box for use in the future. Everything else stays the same, except the single-ended shed rather than a through-version.

Wills sheet materials are readily available in a variety of finishes, beautifully moulded in appropriately coloured plastic. Being 2mm thick, they are structurally strong enough not to need much bracing, but can be tricky to cut. A spare sheet or two is a good idea to practice on if you've not used them before. Use a sharp knife from the front of the sheet and make many passes rather than trying to go through in one go. It's much neater this way. ■

once you've built your model, the next step to working without instructions is small. It's worth trying these kits as you'll learn lots along the way

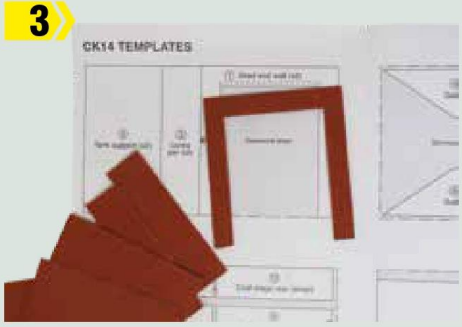
1

Open the box and a pile of materials fall out. Most are part of the wider Wills range with relatively few mouldings unique to this particular model.

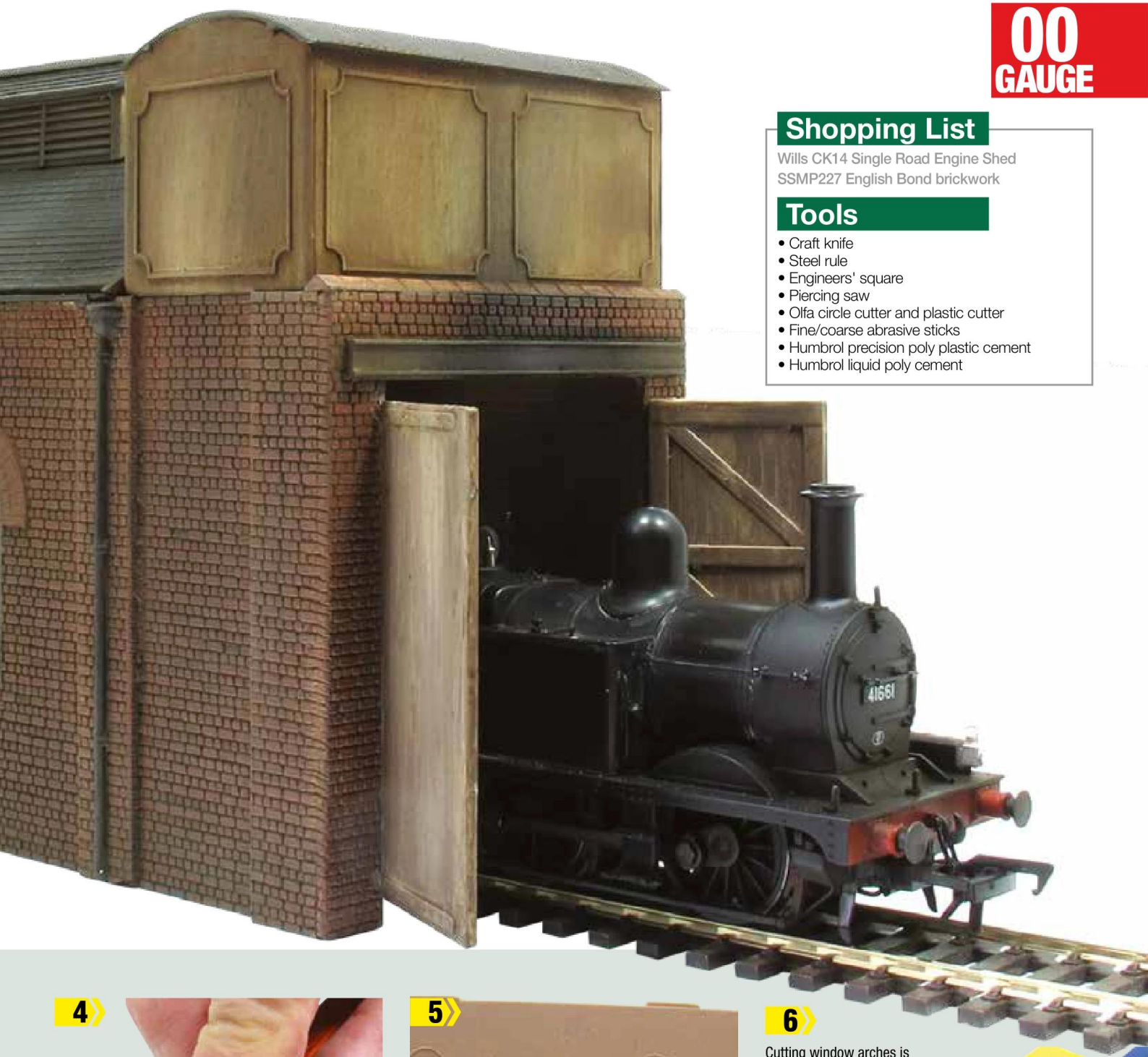
2

Sheets of dressed stone are included, but I decided to build my shed using English Bond brickwork instead. I picked up a couple of packs which gave me eight sheets to work with.

3



Craftsman kits require the modeller to cut out most parts. Full size templates are provided to help along with the plan of the finished model.



Shopping List

Wills CK14 Single Road Engine Shed
SSMP227 English Bond brickwork

Tools

- Craft knife
- Steel rule
- Engineers' square
- Piercing saw
- Olfa circle cutter and plastic cutter
- Fine/coarse abrasive sticks
- Humbrol precision poly plastic cement
- Humbrol liquid poly cement

4

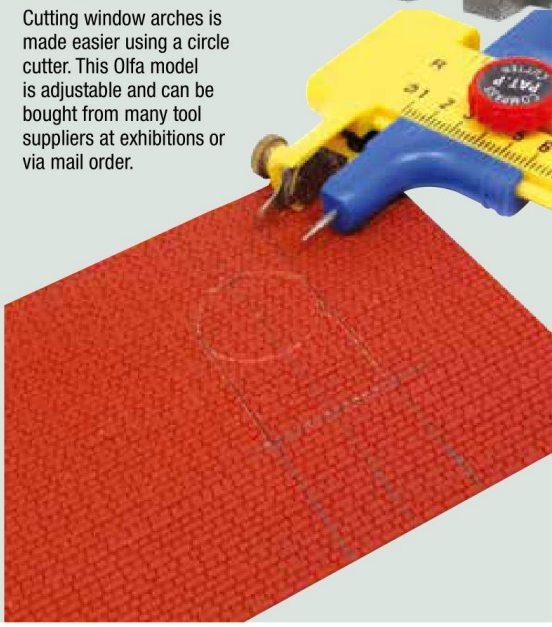
Cutting Wills sheets isn't the easiest job in the world. Because of their thickness and the depth of the detail, you have to work from the front making several passes with a knife blade until you're all the way through.

5

One of the unique mouldings is for the shed sides with the arched windows. For a stone shed, just clean up the window edges with a sharp knife.

6

Cutting window arches is made easier using a circle cutter. This Olfa model is adjustable and can be bought from many tool suppliers at exhibitions or via mail order.

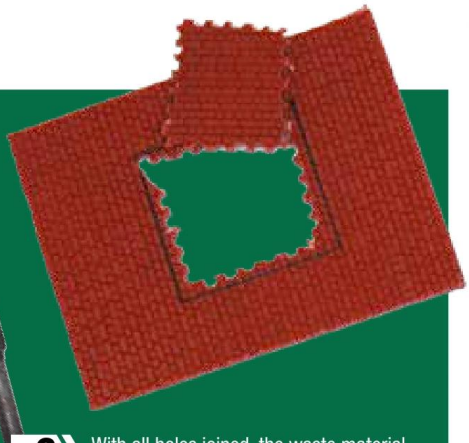


Chain drilling

"sometimes you need to make a big hole in a piece of plastic or metal and a knife won't do the job. You'll need to make lots of little holes to help you cut – a technique known as chain drilling"

1 Start by drilling lots of small holes near the edge of the larger hole you want to make. Keep them close together but without touching. I've used a 2mm drill, as it's less likely to break than something smaller.

2 Join up the holes with a knife, or if the material is too thick or tough, with a needle file enlarging each hole until they join up. Be careful if using a knife as too much pressure can snap the blade. The closer the holes, the easier this job.

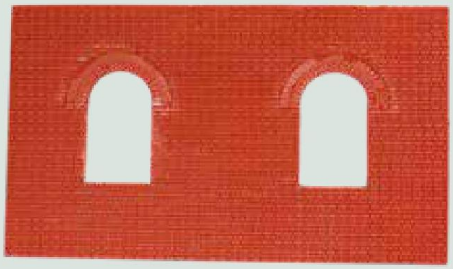


3 With all holes joined, the waste material should fall out of the middle. Now the hole is big enough to get a file or abrasive stick in to enlarge it to the size required.

7

With the circles cut, the rest of the window is opened using a piercing saw to remove most of the brickwork, finishing off with a file. If you don't own a saw, or find it tricky to use, chain drilling is an option.

8



If your cutting isn't perfect, it doesn't matter too much as the next job is to glue brick arches over the top. These hide sins and are available separately if you find them useful for other projects.

9

After a couple of hours measuring and cutting, there's a surprising number of components to make up this building. It's worth labelling each on the rear as several pillars look similar and it's easy to mix them up.

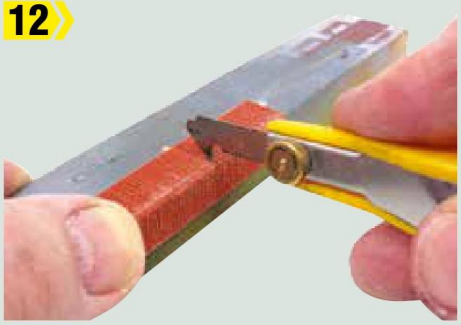
10

I'm using a knife to extend the mortar line over the plain edge. Locate the blade in the existing line then roll it so the blade notches the plastic.

11

Corners should be chamfered to a 45° point so that parts can be stuck at right angles without plain edges showing. By rubbing the part on some abrasive, you can reduce it to a fine point so the join is invisible.

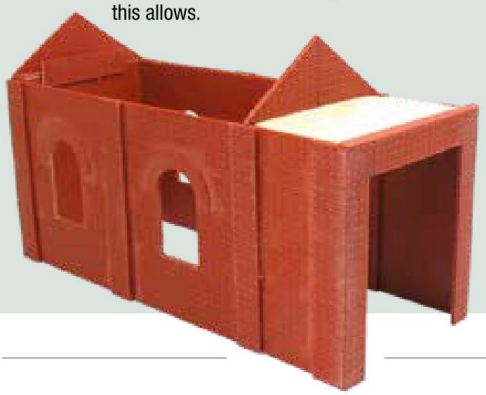
12



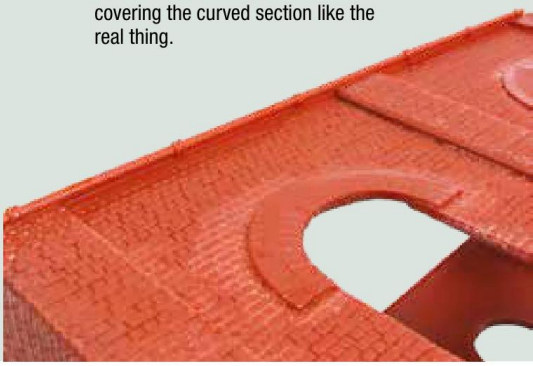
My bodge is to put two parts together and with the glue joint fully hardened use an Olfa plastic cutter to extend the mortar joint around the plain edge. Holding the parts on a piece of wood supports the join while you work.

13 Wills sheets aren't very large and sometimes it's necessary to join them. When doing this, brace the joint with scrap material on the hidden side or it'll be fragile.

14 Finally, all the brickwork comes together. A more conventional kit would reach this point in an hour but to get this far has taken me five times that. Things would have been quicker if I hadn't changed from stone to brick, but that's the flexibility a kit like this allows.



15 In another departure from the plan, I fitted the guttering along the top of the walls. The result is nice, neat, and most importantly, straight. The roof edge will sit down onthis, half covering the curved section like the real thing.



16

It's a relief to fit the roof sheets, as they're the same length as the rest of the shed. The vents on top are another special moulding topped with offcuts from the slate sheet. Ridges use standard Wills tiles, also available separately.

17

The water tank sides are joined, making sure the curve is at the bottom on the long ones. The roof which also appears in its cycle rack kit fits on top using indents in the ends to line it up.

18

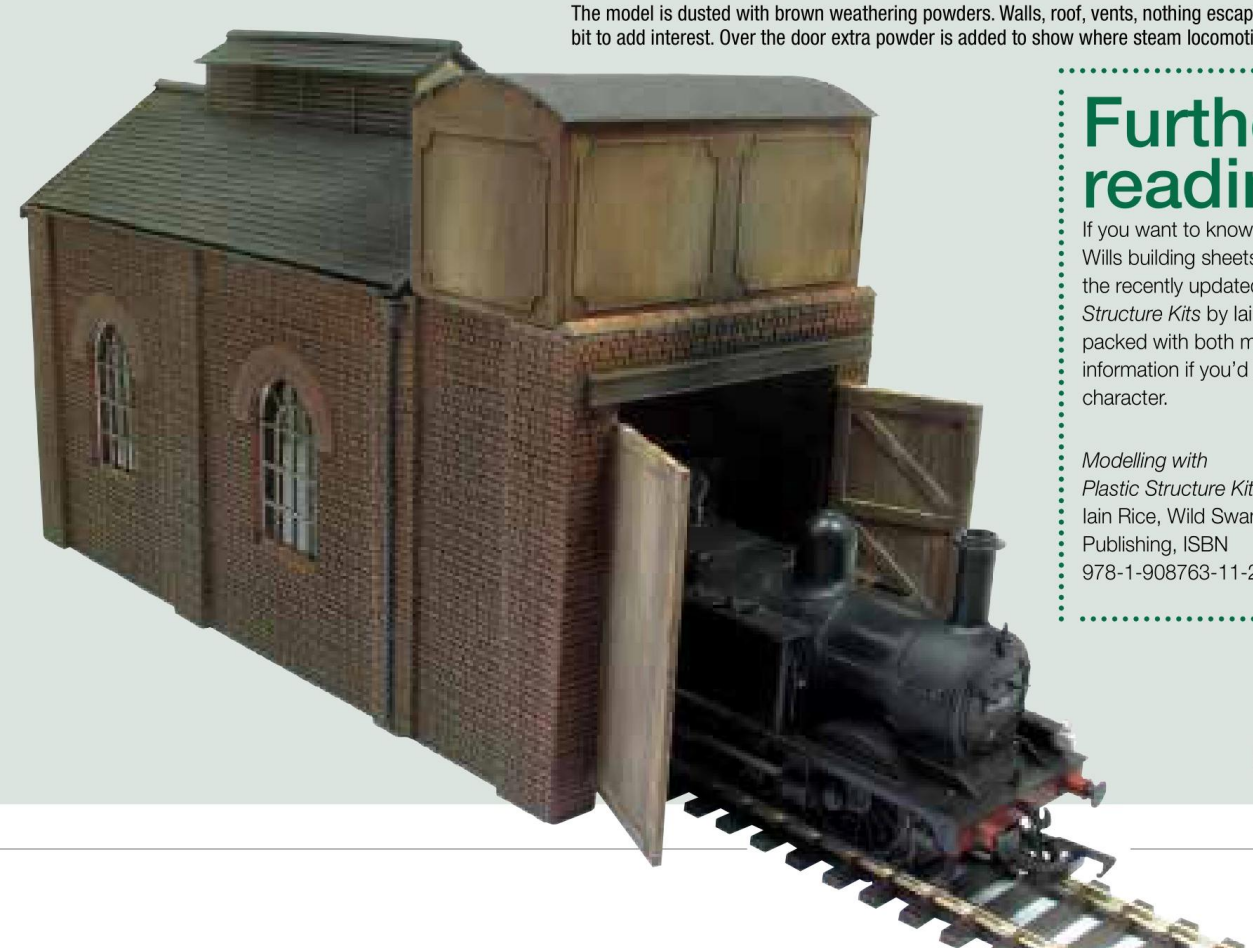
Downpipes and a lintel over the door are the final details. I'm not sticking the water tank in position yet as I need to paint behind it. As I like to look into engine sheds, some spare brickwork is fitted inside the walls, visible through the doors.

19

A quick coat of Humbrol 121 (Pale Stone) is applied, left to dry, then the brickwork is coloured using pencil crayons in three shades of brown. Keep rubbing them over the surface until all brick faces are coloured.

20

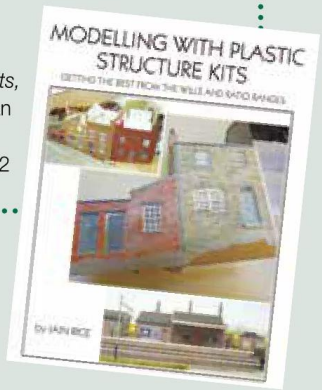
The model is dusted with brown weathering powders. Walls, roof, vents, nothing escapes although I vary the amount a bit to add interest. Over the door extra powder is added to show where steam locomotives have gone in and out.



Further reading

If you want to know more about working with Wills building sheets and making structures, the recently updated *Modelling with Plastic Structure Kits* by Iain Rice is worth a read. It's packed with both modelling and prototype information if you'd like a layout full of character.

Modelling with Plastic Structure Kits, Iain Rice, Wild Swan Publishing, ISBN 978-1-908763-11-2



How to...

PRINT AND BUILD A COAL OFFICE KIT

Printable kits are a low cost option for layout architecture. Built properly, however, and they can be good enough for exhibition. Ian Mellors shows you how…

I get quite a few questions at shows when I stand behind my O gauge layout 'Fourgig East' (BRM October 2015) regarding the buildings and how they are constructed. Most are surprised that the whole layout makes use of Scalescenes.com OO gauge structures enlarged to suit. Recent updates to the free Adobe Reader program have added features that make this possible to anyone with a suitable printer to rescale their standard kits to any size required.

Printing

The software used in this article is Adobe Reader DC, the current free to download pdf reader. I also have used the free sample Coal Office/Weighbridge kit from Scalescenes – no excuses now, it's free to try!

Opening the kit file you should get something like this:

This is fine for OO as the kit is designed to be printed out on A4 sheets of paper, but we are going larger. Using a "right click" action on the mouse shows you three options to zoom the view. Select the "Marquee Zoom" option.

This is where a bit of trial and error comes in. Using the mouse, click and drag to zoom in on a part of the kit. In this example I chose the left-hand side from the External Chimney Cover Layer to the Internal Chimney Cover Layer. The aim is to select the maximum amount of kit that will fit on a single A4 page when printed out once enlarged.

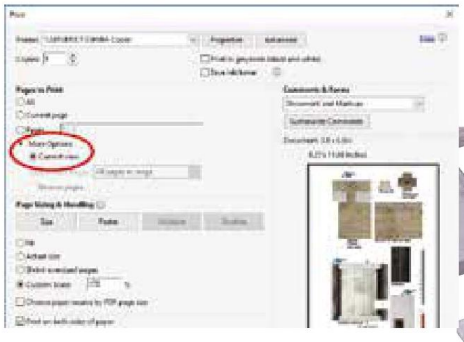
Next is the first "trick" – we need to resize the Adobe Reader window so that only the area that we want to print is visible. This is vital for the later printing stages to work.

So drag the edges of the Adobe Reader window so that we have the area needed visible. You may need to use the scroll bars after resizing to get the required view back in place. You can see now how the Adobe Reader is only showing the area that is to be printed.

Now to print!

After selecting the print option there are a couple of settings that we need to change. First off is the scale. In this example it is OO to O, or 4mm to 7mm to the foot. This gives us a scale factor of 7:4 or 175%. I know that to some of you a percentage in excess of 100% is odd, but this is just how printers work. So in the "Custom Scale" box type 175 Click in any of the other boxes and you will see the preview change, but is still shows

the areas of the kit that we do not want to include in the printout. Here's the second "trick" - Click on the "More Options" option in the "Pages to Print" section and select "Current View". Now you should see that the preview shows only the bits we want.
As I said, a bit of trial and error is needed to



get the maximum amount of kit printed on a single sheet. If you have too much selected, you will see that it is spread over more than one page. If so, cancel the printing and repeat the zoom and resize window process to reduce the area selected. Pressing "Print" gives us our first O gauge kit parts.

Card stocks

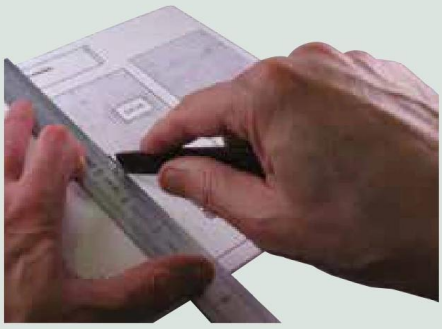
As we have enlarged the physical dimensions of the kit we also need to consider the card that we use to build it. The same scale factor needs to be applied, enlarging the OO card thicknesses by 1.75 times. For O gauge I either use 3mm foamboard for the 'heavy card', or laminate 2mm and 1mm sheets for small kits. Medium card is fine at 2mm and 1mm card is fine for 'light Card'. The small differences from the ideal thicknesses don't really matter, as the kits are designed to handle varying thicknesses of card in any case.

Assembly

When it comes to gluing the prints onto the card I tend to cut up the sections and rearrange them on the card, as you often end up with quite a lot of white space on the prints which just wastes card and glue. You will find that you can include parts from other prints on the same bit of A4 card with a bit of careful rearranging.

Assembly is as per the instructions from here. That is the beauty of this approach – once you have your card parts the right size and the right thickness they go together just the same as Scalescenes intended.

1



After gluing the prints to appropriate card or board, carefully cut out using a sharp blade and steel rule. Use several light strokes of the blade

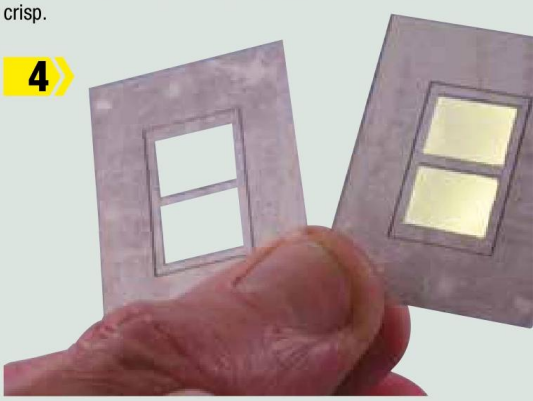
2

Cover layers are wrapped and glued around the base layers. Run your finger along the edges to make them crisp.

3

Finish wrapping the cover layer by again running your finger along the edge and ensure the flap is firmly stuck down.

4



Cut out the window openings on the cover layer and glue to clear plastic. Once dried, finish cutting out the windows. Two are supplier in this kit but only one is needed.

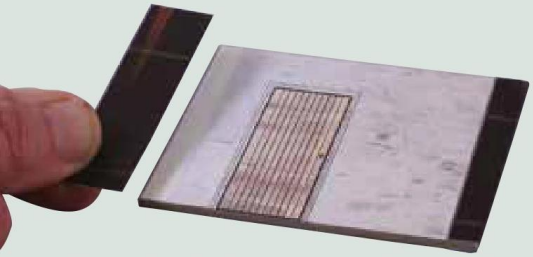
5

Glue the window face down on the exterior side wall ensuring it lines up with the opening. Add more glue and firmly stick the side wall interior over the top. Add weight to ensure adhesion.

6

Cut out your door of choice and glue in place on the exterior side wall.

7

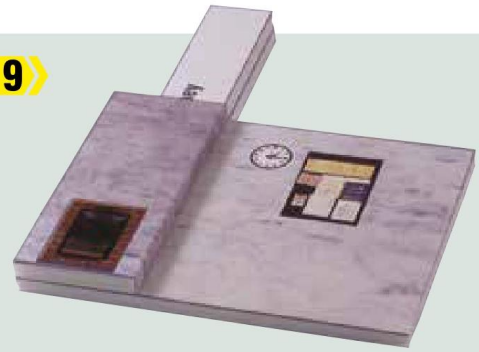


Wrap and glue the drain pipes to the interior side wall using the blue lines as a guide. Make sure you get them the right way up!

8

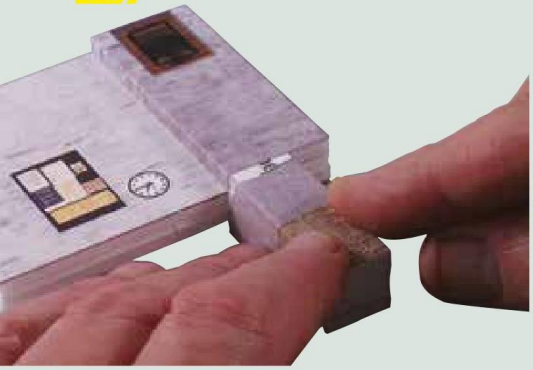
Glue the completed interior and exterior end panels together. Add weight to ensure adhesion.

9



Wrap and glue the interior chimney cover layer around the base layer and glue in place on the interior base layer.

10



Continue to build up the wall by wrapping the external chimney cover layer lower flaps around the base layer and fixing to the exterior base layer. Glue together the exterior and internal walls and wrap the remaining chimney flaps around.

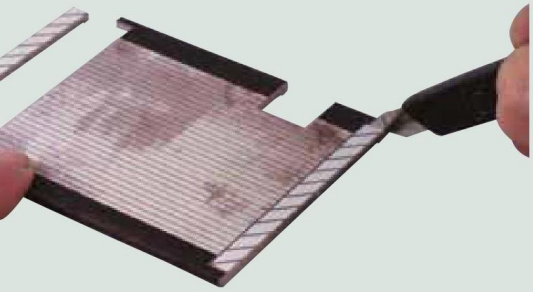
11

Molut volore, ut vella vendi int et volor maximagnit, simusti oraectibus et vellaborero omnihil mos et quibus doles debit aut arum aute cum voles voluptatus ma voluptum sit

12

Once dry, glue the two assemblies together ensuring all is square.

13

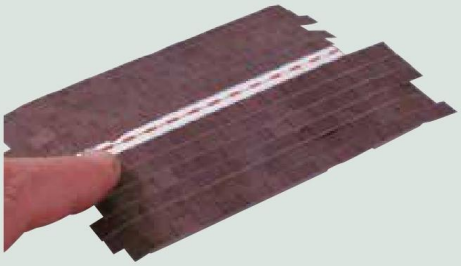


Wrap the guttering cover layer around the base layer and leave to dry. Cut out the shaded areas with a sharp knife.

14

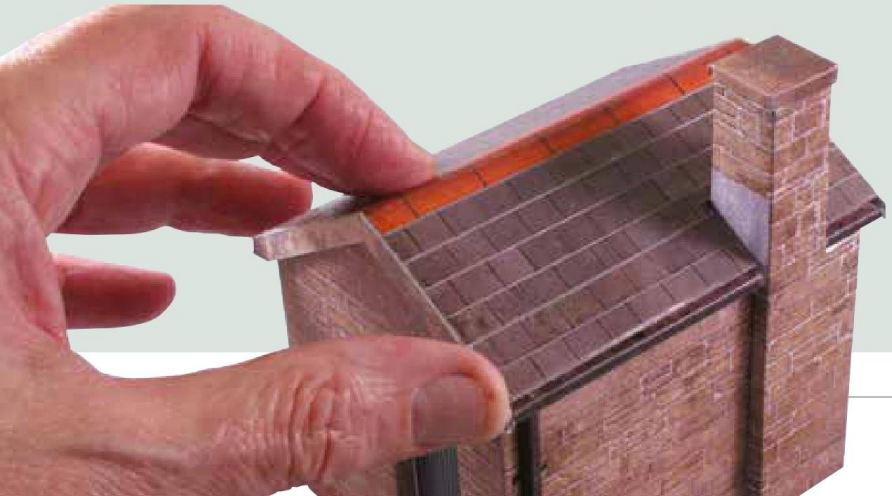
Test fit and glue the guttering to the building. Apply weight to ensure good adhesion

15



Cut the roofing slates into strips and apply to the roof base layer starting at the bottom and working up. Once dry flip over and trim off the excess

16



Glue the roof in place, applying weight or an elastic band while the glue sets. Adding the ridge tile, chimney cap and barge boards completes the building.

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How to...

BUILD A LASER-CUT BRIDGE

If you like the idea of building a quick kit that'll make an attractive model, look no further than this laser-cut bridge kit, as Howard Smith shows.

KS Laser Designs might not be an instantly recognisable household name in the world of railway modelling, but it's still early days for laser-cut kit manufacturers. Its products are cleverly designed and require little effort by the modeller, meaning that they're not just quick to build, but are perfect for those familiar with card kits – all you need is glue.

Many of us like the idea of building a layout, but we're not all specialists in architectural construction. If you prefer spending time modifying rolling stock than creating an environment in which to run it, look at KS Laser Designs' product range. Its offerings provide variety amongst the many ready-to-plant resin buildings or card kits that are regularly seen.

Having built laser-cut kits with design flaws and parts that don't fit, this kit was a different experience. Assembled in less than 15 minutes, parts are a smooth fit with no cutting, filing or sanding necessary.

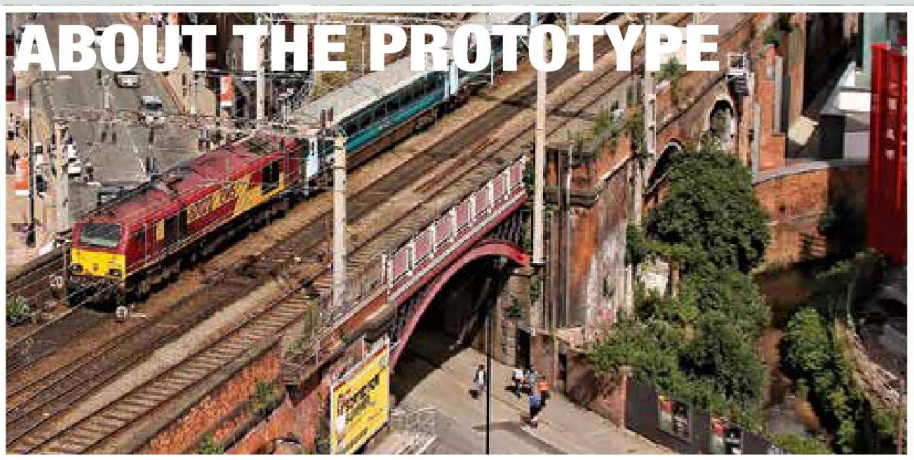
KS Laser Designs has recognised that many modellers want buildings to be of minimum fuss and easy to assemble - the results look great too! ■

What we used

KS Laser Designs N gauge twin track iron bridge kit (KS44-04-01) • £25
www.kslaserdesigns.com

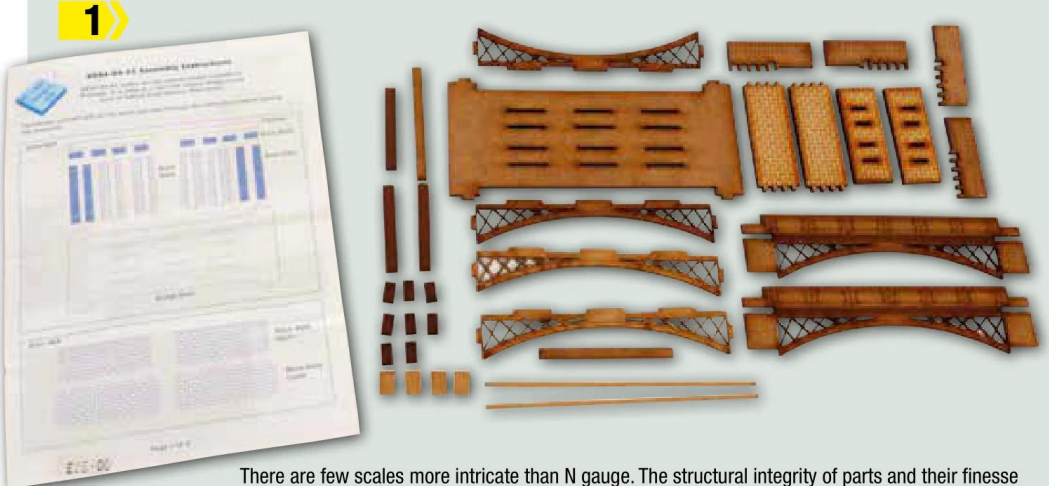
Deluxe Materials Roket Cyano Glue Gel
www.deluxematerials.co.uk

ABOUT THE PROTOTYPE



KS Laser designs based its kit on the double track bridge to the west of Oxford Road Station in Manchester, seen here being crossed by 67022 with an Arriva Trains Wales service. DAVE HARRIS

1



There are few scales more intricate than N gauge. The structural integrity of parts and their finesse is tested to the limit. Let's test build this laser-cut kit of a double track iron bridge.

2

Photographs in the instruction booklet illustrate construction stages. A dry run of parts is sensible before gluing, but as I found out, it's hardly required – everything fits so well.

3

To assemble parts, I'm using Deluxe Materials 20ml Cyano Glue Gel. This thick glue is slower to dry which is important with a kit made from absorbant wood.

4

Gluing the inner faces of parts hides potentially messy glue joints. You might not see these now, but paint can reveal them later on. Apply glue sparingly.

5

The inner arches use the same easy tab and slot construction method. No part can be accidentally glued off-centre or skewed – it's just cleverly designed and makes construction a breeze.

6

You'd be surprised how strong this bridge when the brick fascias are glued into position. They align the inner-bridge sections, ensuring everything is square.

7

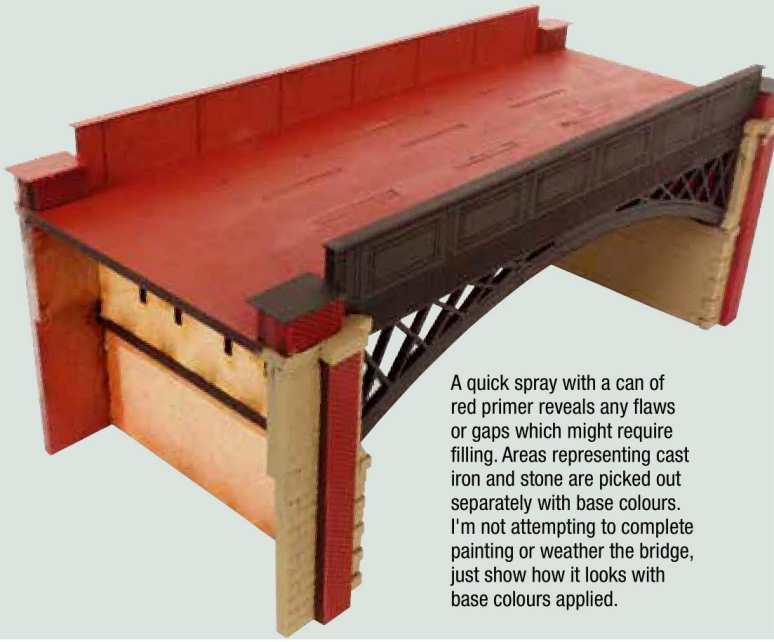
Tab and slot construction is used where bridge abutments join. An elastic band holds things together as the glue sets. The slots for the tabs here are a little large, but at least they fit.

8

Corner posts match the brick abutment details and sandwich the bridge span.

9

Thin capping completes the build - just 15 minutes from start to finish are spent creating this pleasant little structure. I've used the same glue throughout.



A quick spray with a can of red primer reveals any flaws or gaps which might require filling. Areas representing cast iron and stone are picked out separately with base colours. I'm not attempting to complete painting or weather the bridge, just show how it looks with base colours applied.

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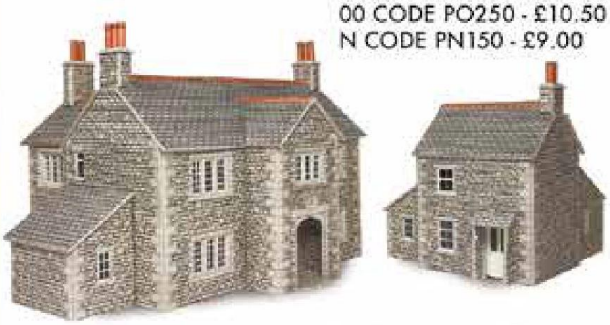

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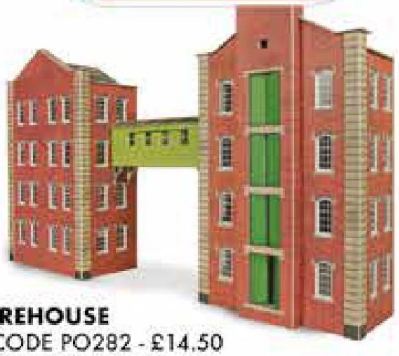

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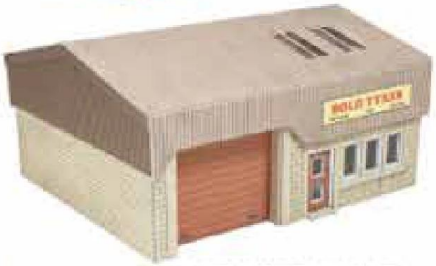

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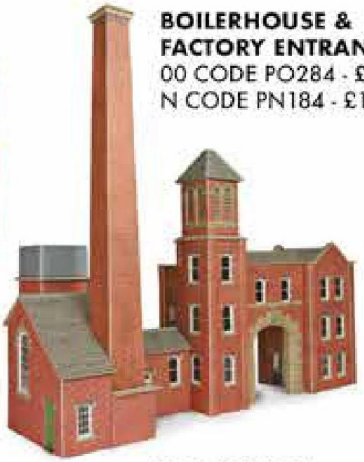

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SIGNAL BOX DERELICTION

Adapting card kits can be very enjoyable as Paul Kirkup validates with this Metcalfe LNWR signal box. Here's how he transformed it to wrack and ruin...

Empty and disused signal boxes, goods sheds and station buildings became a common sight from 1963 onwards, as branch and secondary route train services became DMU operated, and staff were withdrawn from stations. Often this was a prelude to complete closure of many branch lines. With often just a basic passenger train service in operation, goods yard sidings were ripped up and single line operation instituted on former double track routes.

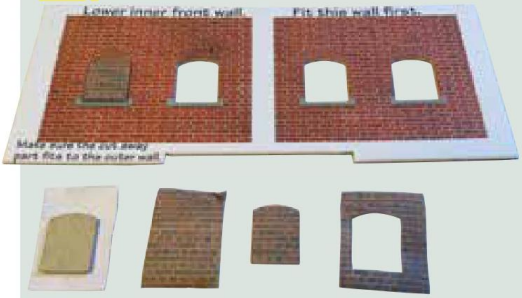
Even in rural areas it didn't seem to take long before redundant buildings became vandalised, starting with windows being broken and doors smashed in. Boarding them up was often only partially successful in thwarting the vandals' attentions. Lack of any maintenance resulted in damaged roofs and missing rainwater goods, then water would accelerate the cycle of decay.

Many layouts feature a signal box, but not many show them in a derelict condition. Here, I've taken Metcalfe's popular LNWR signal box kit and built it to represent one of these unloved, but still standing, victims of modernisation and Dr. Beeching. ■

What we used

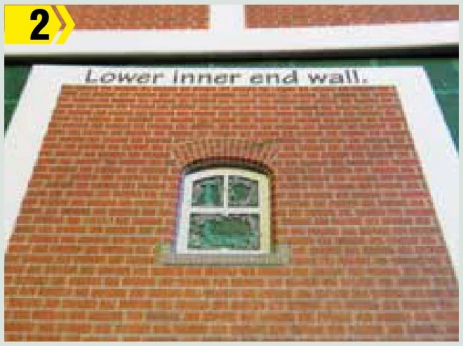
- Metcalfe 00 LNWR signal box and signal box interior mini-kit
- Scalescene 00 brown brick download
- Scalescenes 00 roofing slate download
- Humbrol 53 Gunmetal metallic paint
- Ronseal wood dye 'Peruvian Mahogany'
- Railwayscenics flaking paint wood print download
- Jewellers aluminium wire 0.3mm and 1.5mm
- Ratio 538 guttering and rainwater pipe fittings
- Wilko emulsion tester pots 'Java Bean' and 'Nutmeg Spice'
- Woodland Scenics Fine Turf Earth scatter material
- Javis Black Ash scatter material
- Javis Light green and mid green scatter material

1



Many signal boxes had their locking room windows bricked up over time. I've stuck Scalescenes brown brick to the window cut-outs and refitted them back into the front wall.

2



Before I fitted the windows, I hacked them about with a craft knife to look as though the locals had been using them for target practice!

3

I cut the locking room door so I could model it in the open position, and I cut a piece out of the card kit base so the door would stand open.

4

Using the Metcalfe first floor as a template, I cut a new floor from 2mm balsa. In order for the grain of the timber to run correctly for the projecting gallery planking, I had to cut several pieces which I glued together with PVA.

5

I marked out the planking using a ball point pen, which will show through the next stage.

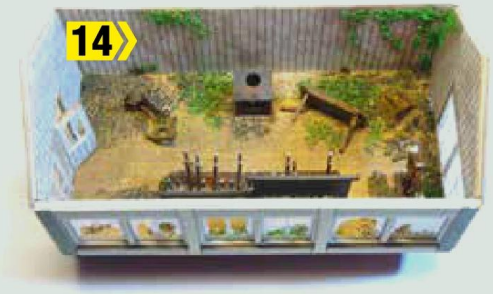
8

The main windows were then broken. This time I went a bit further and took out some of the timber glazing bars as well. This is hard work as the glazing material is quite tough. I found that a heavy duty craft knife worked best, but watch your fingers.

11

I assembled the upper part of the box, before realising I should have lined the inside walls. I downloaded flaky, white painted timber boarding from Railwayscenics.com and printed it onto an A4 size self-adhesive label, before cutting sections out and sticking them to the inside walls. I realised afterwards that the internal planking should have run horizontally, not vertically.

14



I did the same to the cabin floor and furniture and when all was dry I dabbed thin PVA onto the walls and sprinkled some light green scatter material. I did the same on the floor, but this time used a mix of Javis black ash scatter and Woodland Scenics Fine Turf Earth concentrating the debris build up in the corners and around the fittings. Adding some tiny offcuts of card, string, tiny scraps of paper and glitter, to represent broken glass, completed this stage.

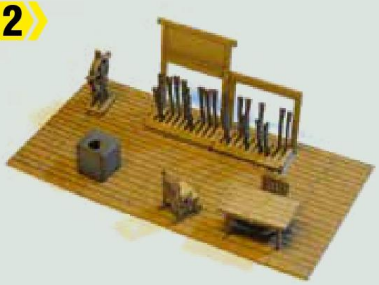
6

I stained the floor with two coats of 'Peruvian Mahogany' wood dye, and distressed the planking with a scalpel, my fingernail and sandpaper. I then weathered the timber using watery washes of white, black and brown acrylic paint, before dry-brushing with Humbrol 53 'Gunmetal' metallic, to represent the silvery look of old wood.

9

Before I stuck the main windows in the upper walls, using a very sharp scalpel I lightly scribed along all the timber planking lines, just enough to cut through the printed surface of the card. This was to help the weathering stage I will use later.

12

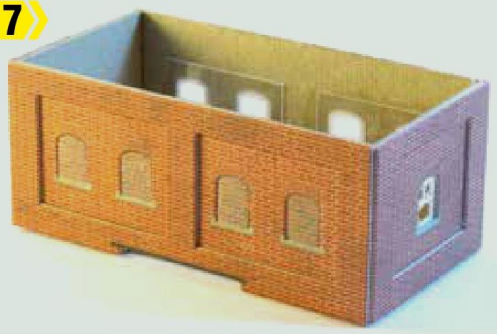


I assembled the fittings mini-kit, and made a floor from card and marked it with planking using a pencil. I used a piece of cereal box card, which happened to be brown on the non-printed side. This was cut to be a snug fit in the base of the upper storey, to keep it square. I painted the various fittings with a wash of dirty grey/brown acrylic paint, before adding some rust weathering powder to the frame, stove and gate wheel.

15

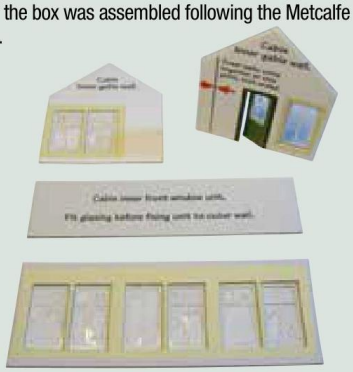
Now for the roof. Firstly I added a structural ridge cut from a wooden coffee stirrer, before marking out rafters on the roof which comes with the kit. I cut out the waste material to leave me with five 'rafters' on each roof slope, 2mm wide spaced 8mm apart.

7



The base of the box was assembled following the Metcalfe instructions.

10

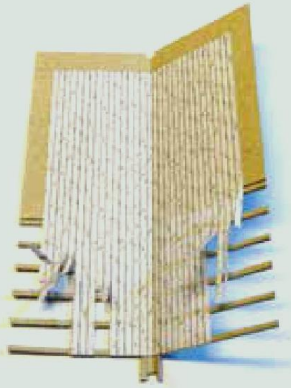


I cut off the roof flap as I didn't need this and it would be in the way of the detail I was going to add later. I also cut the cabin door so it could be modelled in the open position too.

13

Then I stuck the various fittings to the floor, deliberately breaking the chairs and table leg in the process, to represent vandalism. I wanted the cabin interior to look as though the roof had been leaking. To achieve this I brushed the walls with white spirit then, while it was still wet and starting at the top, I brushed on small amounts of 'Peruvian Mahogany' wood dye. This ran down the wet walls creating streaking. Adding more dye in places suggested a concentration of water at that point. Don't worry if it looks a bit dark when wet, as it dries lighter.

16



This time I remembered to apply the internal planking before I fitted the roof. I'd already cut along the planking lines, so that part of the ceiling that falls away could be modelled.

17

I stuck the roof onto the upper floor and painted it with a mix of emulsion. I used tester pots from 'Wilko', Java Bean, Nutmeg Spice and black acrylic dabbed on to achieve an old, dirty appearance.

18

In order to model the 'open' part of the roof, I added slating laths cut from 25 thou' plastic microstrip spaced at 4mm centres (3mm would have been better) stuck with UHU, and added a card overlay to the rest of the roof to bring it up to the same height. I used cereal box card for this. I also used the Metcalfe barge board spacers, but made some larger barge boards from 1/8th inch balsa and ran the laths onto them. The slating laths and roof overlay are then painted with a brown/black emulsion mixture.

19

The slates (downloaded from Scalescenes) were stuck to the roof and laths using neat PVA. Some areas were left without slates and some tiny offcuts were stuck in place to add to the air of dereliction.

20

The bottoms of all three doors were scratched with a sharp scalpel to remove the printed surface of the card. A brush loaded with clean white spirit was held on the bottom of each, which wicked up into the card. This was then repeated with the dark wood dye to simulate rotten water-damaged timber.

21

On the real thing, the window cleaning gallery was supported on cast iron brackets. I made these from standard office staples, bent and cut to shape before supergluing them to the wall and underside of the gallery.

22

Final detailing then took place, using Ratio guttering and 1.5mm diameter Jewellers aluminium wire as rainwater pipes, with collars made by wrapping 0.3mm Jewellers wire twice around the pipe. Handrails across the windows were made from 0.3mm Jewellers wire glued into small holes drilled in the card.

23

The plastic staircase was tackled next. I scraped the top of each stair tread and lightly gouged them with a pointed scalpel blade to represent wear and timber grain, then I cut away bits of one or two steps and broke one completely. I also cut away one of the handrails before assembly and painted them with my black/brown emulsion mix. Dry brushing with Gunmetal brought out the highlights.

24

The final item to make was a stovepipe. I used a plastic lollipop stick, cut and filed to fit before gluing it together, but 2mm tubular plastic section would be just as good.

25

Finally, I gave the whole building a light blasting with a watery spray of dark brown and black acrylic. Then, with the spray on a finer setting, I added further weathering below windows, where more run-off occurs, and at the base of the wall, where splash-up occurs. I tried to get a rain shadow on wall surfaces where an overhang protects the wall from the worst of the rain.

Conclusion

Here's the finished signal box. I've just added a little bit of moss and other debris on the window gallery and staircase, and a few tiny, irregular cuttings from the glazing sheet to represent broken bits of glass lying around. Once the building has been fixed in place on the layout, more broken slates can be scattered on the ground below the areas of roof damage, with further debris such as bits of timber, broken furniture and other items like the signal box nameboard perhaps.

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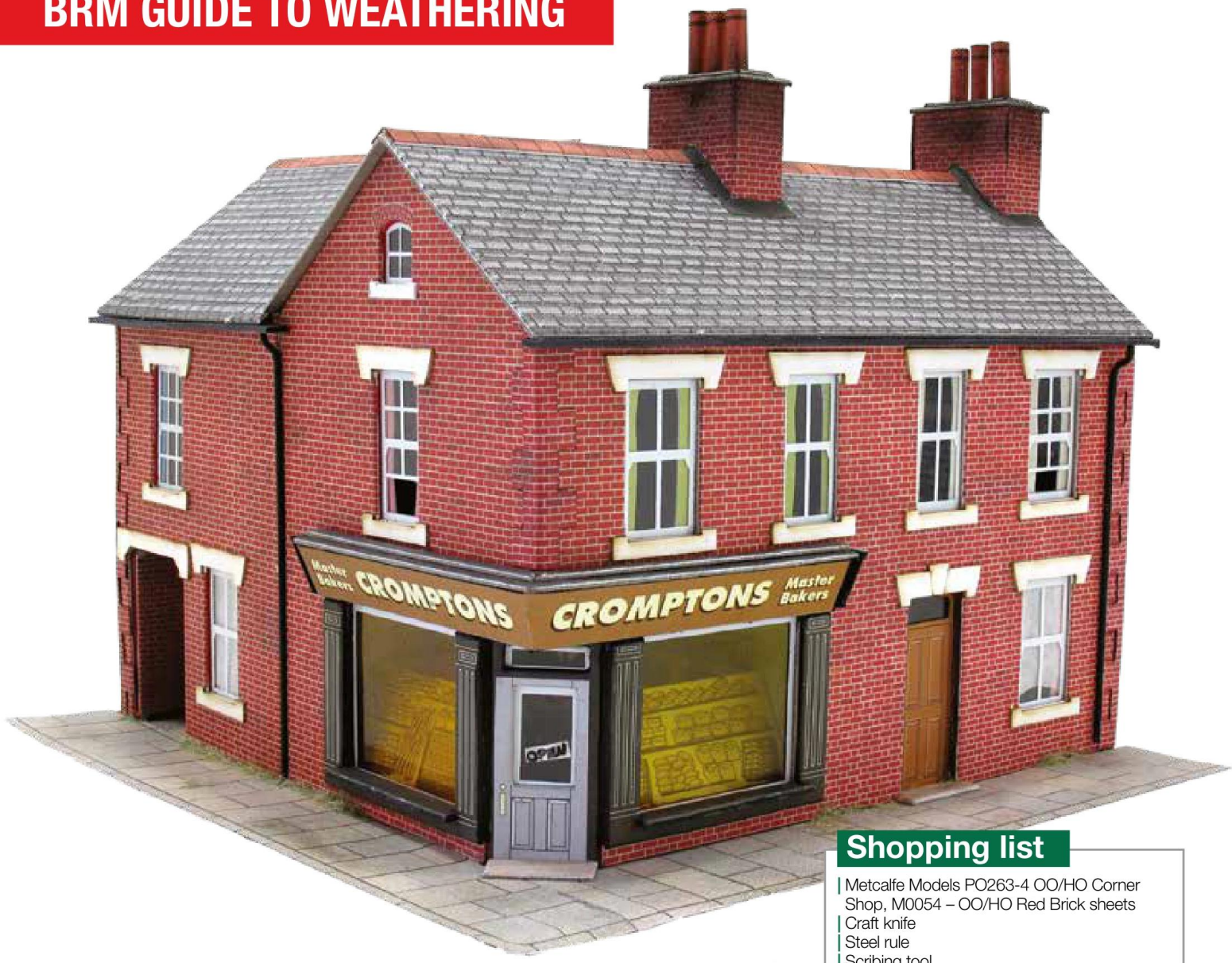


OPEN ALL HOURS

Phil Parker channels his inner Arkwright with the build of a budget corner shop card kit from Metcalfe Models.

Shopping list

- Metcalfe Models PO263-4 OO/HO Corner Shop, M0054 – OO/HO Red Brick sheets
- Craft knife
- Steel rule
- Scribing tool
- Small screwdriver
- Deluxe Materials Roket Card Glue
- UHU
- Wire
- Tissue paper

Subtle details make a difference on a model. The correct posters on a wall or cars in the street - even the clothes your figures wear define the era of your layout.

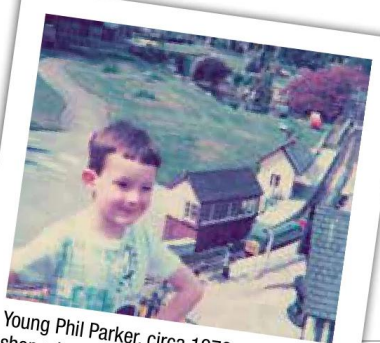
BRM Editor, Andy, presented me with a Metcalfe Models kit for a corner shop just as I finished reading the novel, 'The Trouble with Goats and Sheep' by Joanna Cannon. Set in the long, hot summer of 1976, the story included a detail that took me back to my childhood - orange shop windows.

In the days before air conditioning, many shops would stretch orange cellophane across the inside of windows to protect goods from the glare of the sun. As I slurped my Walls Red Arrow lollipop (with free aeroplane!), I would have to strain my eyes to see what was inside. The decision was made - my miniature shop was to be set in 1976.

I'm a big fan of card kits. They're a cheap way to fill a baseboard with buildings for a start. Better still, if well designed, assembly is great fun. Although they aren't a five minute build, time spent is repaid with a lovely model.

My challenge is to modify the kit to look as good as possible with simple tweaks. By tackling those corners with readily available materials and working on the more obvious flat surfaces, I think the end result looks pretty respectable. ■

"I'm a big fan of card kits. They're a cheap way to fill a baseboard with buildings"

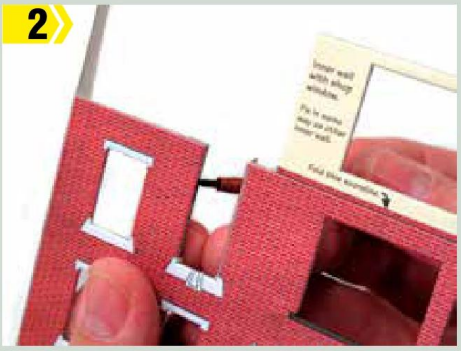


Young Phil Parker, circa 1976, orange shop windows not pictured.

1

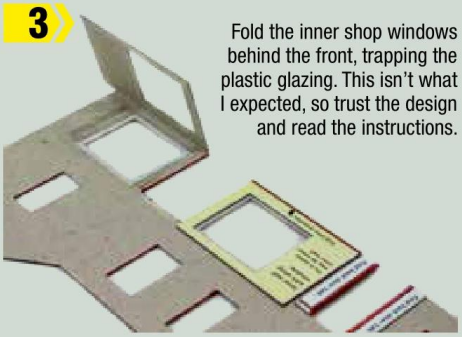
Metcalfe Models' corner shop is supplied on thick, pre-printed cardboard sheets. All parts are die-cut, requiring a small nib to be cut through to release them from the sheet. Additionally, there are printed plastic windows and comprehensive instructions.

2



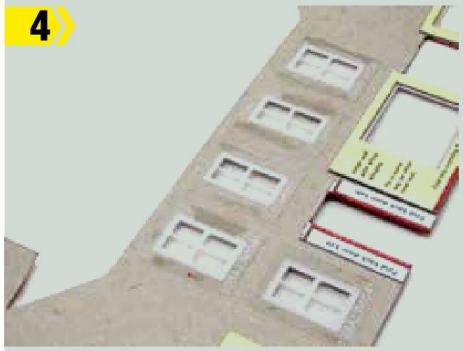
The classic upgrade for any card kit is to colour exposed edges using a felt-tipped pen. Colour from the back of the sheet to avoid getting ink on the printed front.

3



Fold the inner shop windows behind the front, trapping the plastic glazing. This isn't what I expected, so trust the design and read the instructions.

4

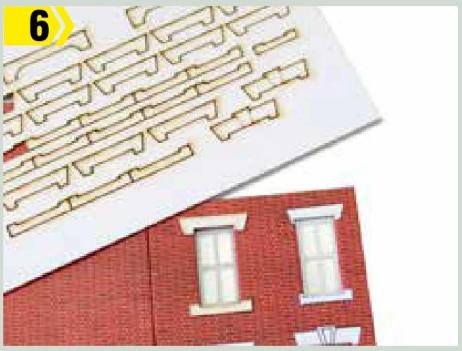


There are two window sizes, large and small, but the holes in the wall don't look very different. The printed side is matt and should face out. Clear all-purpose glue holds the plastic in place.

5

Printed curtains are provided and should be fitted with a scrap card spacer so they aren't on the back of the glass. The downstairs windows also need net curtains. A single ply of tissue paper works perfectly.

6



Laser-cut sills and lintels are found on a separate sheet. Fitting these provides depth to the detail, which makes them an essential addition no matter how good the printing.

7

I like to add interior walls so that you can't see through the building. Card offcuts from the kit or old packaging are perfect for this job. Test fit everything - a little trimming was required by some windows.

8

Despite being angled, the shop door fits perfectly between the two sides. Decorative mouldings surround the windows. I made a mistake by not colouring the visible brick edges - black paint sorts this.

9

Assembling the shop sign looks complicated but once you fit the first spacers, it's easy. A small pink piece of card provides a guide to the correct distance for each above the window. It's not stuck but used as a jig.

10

Several shop names are provided printed on thick card. More are on the thin card sheet to cut out and fix over the originals. Check the fit, I've coloured the ends and sides of the old name with black pen to hide gaps when the new name is added.

11

Orange cellophane used to be stuck to the back of shop windows to protect the goods from strong sunshine. Unable to find suitable sweet wrappers, I'm painting the inside with Humbrol clear paint.

12

Chimney stacks are built from plain card layers and wrapped with the thick card sides. A strong method of construction but one that relies on accurate alignment of the parts for a square result. A slow drying glue isn't a bad idea to allow for adjustment.

13

A couple of tabs in the main floor fold back to provide alignment guides when fitting it in the large sheet. Another layer is then added for the shop floor. You could print a different surface to add variety, although it's hardly obvious from outside the model.

14

Various shop interiors are provided although there are only two choices of back walls. A couple of small walls made from scrap card hide the gap behind the window displays when looking through the door.

15

With the main part completed, a gable end is assembled in the same way. The inner walls for the passage aren't flush with the bottom of the wall but raised slightly to let the wall fit into a gap in the base.

16

Viewing a model from normal angles makes the roof more obvious than it is in real life. Printed sheets look too flat to be convincing, but scribing along the courses and between each slate improves things.

17

Both roof parts fit nicely, but I should've bevelled the inner edges of one of the gables with a fine sanding stick to have a less prominent join.

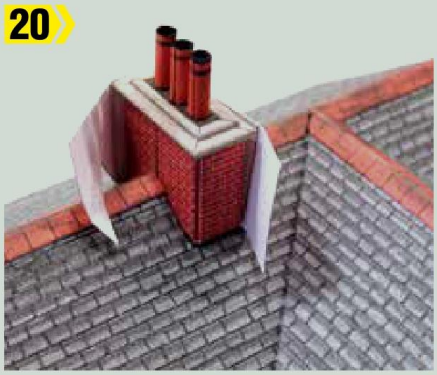
18

Bricks printed to match the Metcalfe range are available in Builder Sheet packs from the company. Each contains four thin and four thick brick card sheets which include useful curved lintels and roof tiles.

19

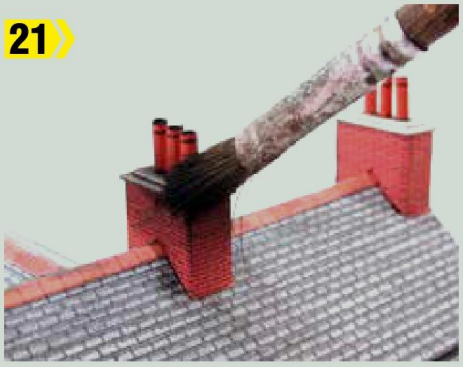
I've cut out the castellated design, ensuring that only whole brick faces appear. All the edges are coloured with felt pen and the part is test fitted. A tiny smear of glue holds it in place.

20



I feel that fancy corners would be excessive for the chimney stacks so these are wrapped in a single piece. While a join is still visible, it's not obvious and could be kept away from the viewing angle.

21



Chimneys get dirty, so a stiff brush and Humbrol Smoke weathering powder adds the all-important grime. As the card surface is very smooth, matt varnish, lightly sprayed and left to dry, helps adhesion.

22

Lead flashing stops rainwater seeping down between bricks and slates on real buildings. In model form, it's represented using 3mm wide strips of tissue paper and fixed with a tiny amount of PVA glue. A quick coat of paint finishes the job.

23

Printed pavement sheets and self-adhesive individual slabs are provided. The printed version matches the courtyard paving and the colours are superb, so I scribed the gaps between the slabs and used it.

24

No guttering is included, but it can be made from 4mm-wide strips from the edge of the thick card sheets. Colour with a black pen, then fix with the slightly curved edge from the die-cut sheet outwards.

25

Finally, the model is bedded into the ground with grass fibres blown into place from a bottle. Since this is a summer scene, I'm using mainly beige with only a hint of green.

How to...

ADD A SMOKING CHIMNEY

Wanting an industrial layout feature to entertain crowds led Phil Parker to fit a smoke unit to a chimney kit.

The skylines of many former industrial towns were once populated with large chimneys. From a modelling point of view, they add useful height to a model and can hide gaps in the backscene, but making one is a challenge.

Real chimneys aren't vertical tubes, but taper slightly. Building a square chimney is easier than a round one, so for this task I'm using a kit.

Vollmer's HO scale plastic kit (ref. 6017) is slightly underscale, but that doesn't matter as it's not noticeable. Assembly only takes ten minutes, but to make things more interesting, Howard decided I should make it work with a smoke unit. These are simple heating devices which vaporise thin oil. I had one to hand for steam locomotives, but larger versions exist for buildings if you want to get serious.

The body of smoke units can reach 70°C which poses a problem for plastic kits, so I had to make some modifications. Mounting the unit near the top of the chimney makes it easy to refuel using the syringe supplied and increases the draw to emit the smoke.

I'm using standard Seuthe oil, but scented oils are available. Perhaps a nice barbecue aroma would enliven an exhibition? ■

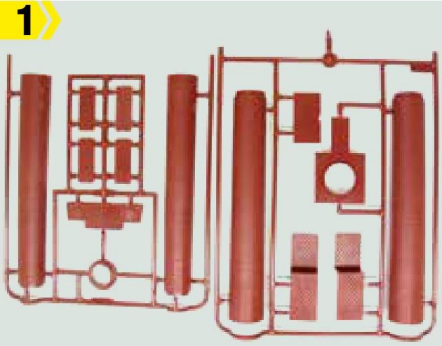
What we used

Vollmer 46017 Industrial Furnace with Chimney www.gaugemaster.com

Seuthe No.10 Smoke unit
www.gaugemaster.com

Laser Cut Lettering – 6mm
modelrailwayscenery.com

1



The Volmer kit is simple, so the only instructions included are three exploded diagrams on the back of the header card.

2

Seuthe's No.10 smoke generator is designed to fit into steam locomotives. Smoke oil and a syringe with blunt needle is included.

3

A quick test of the generator powered by 12V DC produces plenty of smoke and proves that the brass body gets hot, very quickly.

4

To protect the chimney, I've fitted the generator in a plywood disk supported by projections inside the chimney. Contact wires are fed down through the base.

Six millimetre laser cut letters are attached to the ladder supports from the same kit. Once complete, the structure is dusted with weathering powders.

How to...

BUILD A RESIN GOODS SHED KIT

Resin kits offer an easy route into making things, providing you observe basic principles, as Paul Bason proves with this example from Skytrex.

Shopping List

- Skytrex 7/156 Corrugated Goods Shed £45
- Epoxy resin glue
- Superglue
- Selection of files
- Fibreglass brush
- Grey primer
- Selection of paints

If you've never attempted to build a resin kit before you may be interested to see how they go together. This goods shed is one of a large selection of 7mm:1ft scale kits that originally formed the NMB range from Skytrex.

You shouldn't find much difficulty in putting together resin parts, but there are a few things to remember. Firstly, resin parts are much more brittle than plastic, they are less forgiving when bent and they can crack if you are not careful. Secondly, due to the moulding process a little more cleaning up and preparation is needed prior to assembly, and the casting process can leave some parts a little distorted. Finally, the adhesives used are possibly not quite as simple to work with as for plastic.

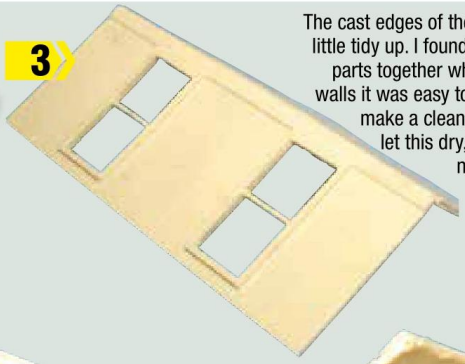
If you find distortion in any of the resin parts Skytrex recommends to simply boil a kettle and carefully pour a little boiling water over the affected area. Once the resin has softened, the part can be readily manipulated into its original shape.

Rapid drying epoxy resin and superglue are recommended for resin kits like these. I have experimented with both options and I have found that the two-part epoxy such as Araldite Rapid is best suited to the larger joints. For example, in the corners of the buildings where it is sometimes beneficial to be able to move the parts around to ensure that everything is perfectly aligned. In contrast, superglue is probably best suited to fixing smaller parts such as doors and windows. ■

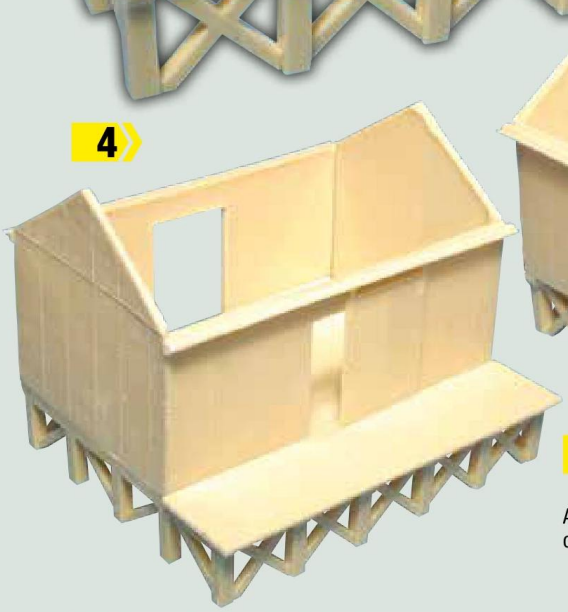
1

Two wall/end sub-assemblies are joined to form the main structure. An engineer's square is ideal for fixing the sides at right angles.

2 All four parts that make up the support framework are now fixed together.



3 The cast edges of the two roof slopes need a little tidy up. I found that by offering the two parts together while located on top of the walls it was easy to see if the angles would make a clean joint. Glue one end first, let this dry, then the middle section next and, once this is set, finish off by gluing the remaining end.

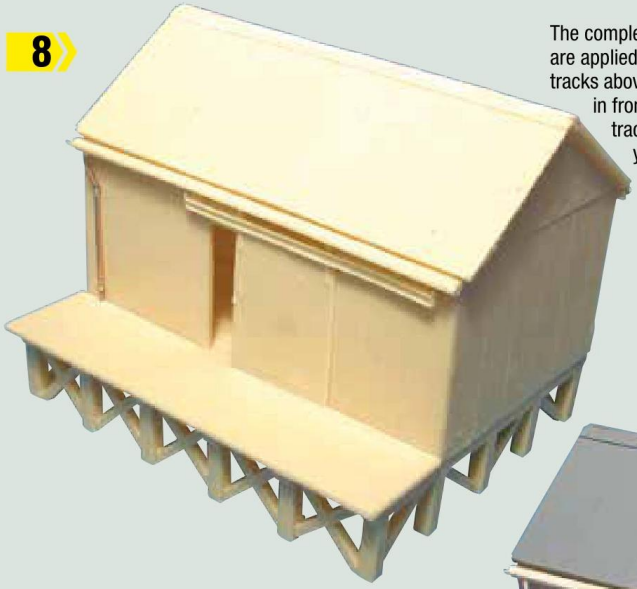


4 With the superstructure attached to the support framework, the platform is added. The next step is to glue the combined eaves and gutter detail to the tops of the two main sides. I used superglue to tack one end and once set, I carefully ran more glue into the rest of joint making sure all was level.

5 At the back there is no platform, but note the alignment of the wall and framework.

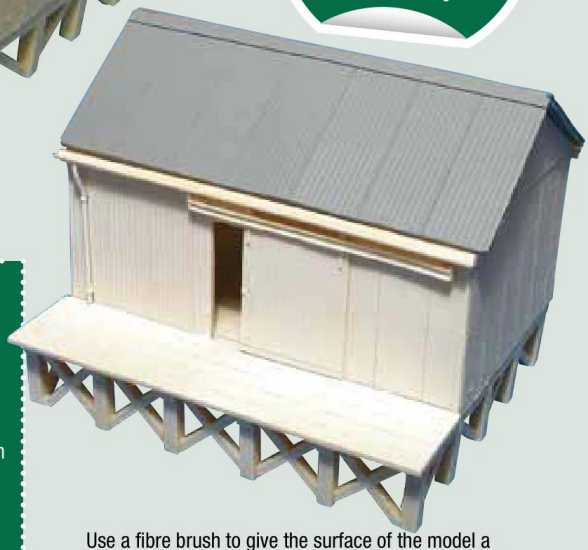
6 The internal floor is made of three parts that have to be cut and fitted to size.

7 The rainwater pipes weren't in the kit, but were made by bending brass rod.



8 The completed shed awaits decoration. The doors are applied simply with a spot of superglue, but the tracks above each door need to be positioned just in front of the hangers. In order to space the track a realistic distance away from the walls you do need to make up a couple of small spacer blocks from scrap resin material.

Resin parts are more brittle than plastic and are prone to cracking when bent excessively



Use a fibre brush to give the surface of the model a key (for priming and painting) and thoroughly wash the model's surface. It is prudent to test paint on an unseen part of the model, such as the underside of the floor, to ensure that it takes.

Painting Tips

I decided to spray the cream walls with matt enamel paints using my airbrush. Whilst drying I turned my attention to the roof. I attempted to represent asbestos sheets, so a mixture of concrete, mid-brown paint and a splash of thinners applied with a flat paint brush provide a streaky weathered finish. The timber platform and staging is similarly painted with a greyish/brown mix. Finally, the guttering and door tracks can be highlighted, in this case, with Great Western brown.

HOW TO...

MODIFY A BARN

SHOPPING LIST

- Skytrex (4/052) Derelict stone barn
- Phoenix Precision (P974) Dark Sandstone and (P957) Cement Rendering
- Redutex (076PC112) grey slates, (076TA112) terracotta pantiles
- Games Workshop Agrax Earthshade
- Lifecolor Lichens & Moss
- Woodland Scenics Fine turf
- Grey car primer
- Vallejo Model Color London grey acrylic paint
- Aluminium foil
- 1mm plastic sheet
- 3 by 1mm basswood strip
- 5mm diameter plastic tube
- 2mm thick plastic sheet
- EDM Models Weathered Wood stain
- Vallejo Model Color Flat Earth acrylic paint
- Railmatch Weathered Black paint
- Wills (SS42) windows and doors
- Micro Kristal Klear

TOOLS

- Craft knife
- Olfa plasticard cutter
- 2mm drill
- Coarse 6 inch file
- Superglue
- PVA glue
- Epoxy glue

In the real world, everything changes. Crops are sown, grown, then harvested. Shiny cars lose their sheen and gradually dissolve into rust. Buildings are erected, fall into disrepair or are renovated for a different use, before being extended or demolished. In rural spots, they're often reclaimed by nature.

Each building has a story to tell, so I'm creating a barn in four different states of repair - or disrepair - each depicting snapshots throughout its life, all requiring modelling to customise.

Inspiration came from a single-piece resin casting for a small derelict stone barn, from a model master made by David Wright. Full of character and sold by Skytrex, its modest price makes it attractive.

Each project uses a similar set of skills and materials, so I've not detailed every step, just the differences. Once you're familiar with the first, the rest are created by adding more detail or varying the colours.

Despite starting from the same place, the four creations look very different. When you're still at the modelling bench late into the night you know a project is interesting.

The barns are representative rather than perfect models of a particular building, and you could set at least one of these on any era of layout - they're simple to alter. ■

NEW BARN

Years before dereliction, this barn would have looked new. Let's create this in model form.

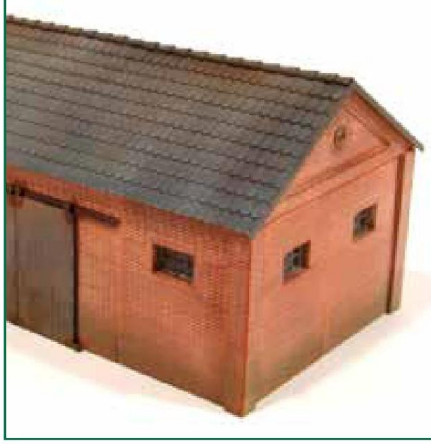
1

Doors are made from 0.030in plastic sheet, scribed to make planks and are fixed with superglue. Once dry, blobs of epoxy ensure they aren't accidentally pushed in.

2

The roof is made oversize, glued in place with epoxy - a thick glue is necessary as the wall tops aren't level. Once dry it's trimmed to size.

Buildings evolve and age with time as Phil Parker demonstrates, by adapting a Skytrex barn to represent different conditions of repair throughout its lifetime.



I ask the expert

Q I've regularly seen people using weathering powders on rolling stock, but how easy is it to use them on buildings?

A Weathering powders are just as useful on buildings as they are for rolling stock. You might need a few extra colours though.

Roofs are very prominent from the normal viewing angle on any model so unless the building is brand new, a dusting of Humbrol Smoke or similar dark grey powder will add colour variation. Work the powders downward with a wide brush as though it has been washed by rain.

Damp rises from the ground, displaying itself as a green tinge on bricks or stone. On older structures this can rise a long way up a wall. A green powder worked well into the courses with a small stiff brush subtly can easily achieve this.

CONTACT

- **Skytrex**
  W *www.skytrexmodelrailways.com*
- **DCC Supplies**
  W *www.dccsupplies.com*
- **Lifecolor**
  W *www.airbrushes.com*
- **Games Workshop**
  W *www.games-workshop.com*
- **Phoenix Precision Paints**
  W *www.phoenix-paints.co.uk*
- **Eileens Emporium**
  W *www.eileensemporium.com*

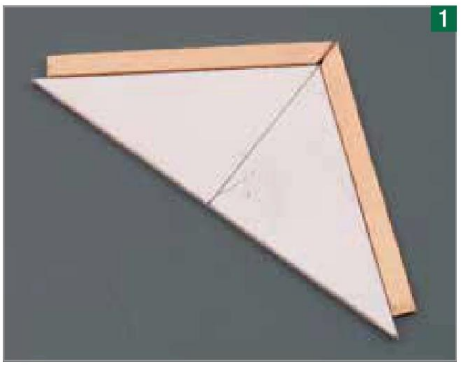
Gaps are filled with DIY store wall filler. Strips of slabs 6mm by 10mm are created by scribing with an Olfa cutter to cap the top edges of the end walls.

Using a dark grey Vallejo acrylic washed over the surface, the mortar lines are darkened. Base colour is then dabbed on the stone surfaces with a sponge.

Redutex self-adhesive slate roofing is cut to size and stuck down to finish the model. Apply light pressure until you are sure it's in the correct place.

DERELICT BARN

After decades of use and much neglect, the barn is looking worse for wear. The slate roof has been replaced with cheaper corrugated iron and even this has rusted away or fallen, leaving the wooden trusses exposed to the weather.



Roof trusses are cut from 1mm by 3mm basswood strip. A cardboard template cut to match the end walls with a 40 pitch helps assembly.

The walls are painted as before, but the timber is coloured with Weathered Wood stain. This turns the wood a realistic silver sheen.

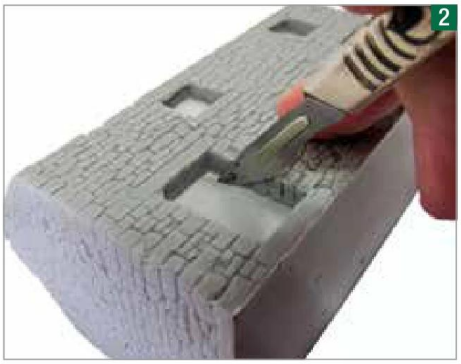
Ramshackle doors based on photographs found on the web are made from sheet basswood scribed with an Olfa cutter. They are stained the same way as the trusses.

The model looks pretty complete with its woodwork, but many photographs show slate roofs were regularly replaced with corrugated iron which rusts over time.

BARN RUIN

Let's start with the most basic barn - one on the verge of collapse. No modifications are made to the casting, only a paintbrush is required.

Each model is based on a single-piece resin casting. A quick scrub in the sink with washing up liquid is followed by a rinse under cold water to remove the release agent.



The casting is clean but there's a thin film of flash across the doors and windows. Cutting it away with a sharp knife is the cleanest and easiest way to remove it.

Let the model dry overnight, then wash the surface with Citadel Earthshade to darken the mortar lines.

Inside, walls are part-plastered and this was painted with cement render colour. The floor is dusted with earth colour scatter materials followed by greenery.

Using Gloss Muddy Fixer as a glue - a thick green acrylic paint from Lifecolor's Lichen's & Moss pack - work the colour around the base of the model.

Share photographs of your ongoing winter projects with us. E-mail *howards@warnersgroup.co.uk* for a chance to be featured in ***BRM***.

The top beams are cut from the same wood as the trusses and glued with thick superglue. Square strips of 1mm balsa provide further support.

Both sides of the iron sheet are visible, so it needs to be thin. Kitchen foil is cut to 24 by 10mm, then pressed onto a piece of corrugated roof left over from a kit.

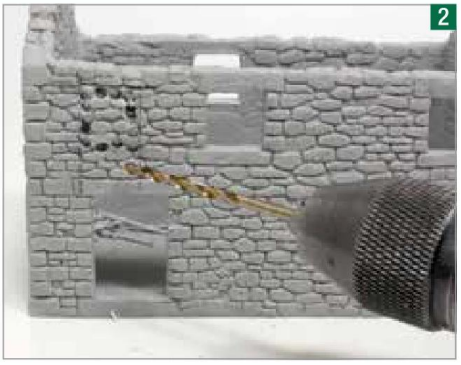
BARN CONVERSION

After standing derelict for years, the barn is rescued from collapse and converted into a house. It's not a large building, so a brick extension is added to the rear.

After spraying with a grey car primer, the model is painted a base colour, Dark Sandstone in this case. Individual stones are picked out with a lighter shade.

Moss is dropped over the fixer and pushed into place with a fingertip. I'm using Lush Plant, but four different colours are available.

These windows and doors are from a Wills building accessory pack. I stockpile these mouldings for projects where size is more important than a specific design.



Using a line that I've drawn onto the surface, holes are drilled around the edge. Working a craft knife into each will join then up, to remove the centre section.

Square up the windows and doors with a small, coarse file. Keep trying the windows for size to avoid taking away too much material.

New lintels are required and made from Milliput filler. Square up the edges with a knife and needle file. Re-apply more filler if required until you're happy.

Although I'm not modelling the interior, adding cardboard floors and walls prevents viewers seeing through the building and makes it look more realistic.

Our barn has been smartened, so brown mortar followed by more base colour sponged onto the stones gives a pleasant Cotswold honey colour stone effect.

Redutex terracotta pantiles are easy to use but make sure you use them the correct way around so that each tile overlaps its neighbour at the bottom.

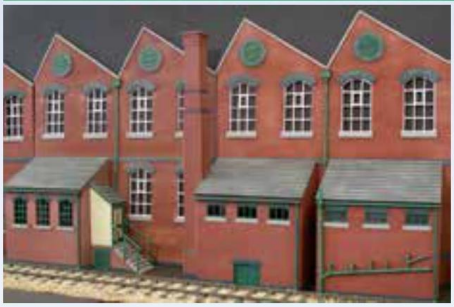
The new owners have added a fashionable woodburner which requires an ugly flue. I've made this one from plastic tube, topped with a plastic fitting.

A small extension is made from cardboard, faced with embossed brick plastic sheet. The base of the barn needs to be trimmed for it to fit snuggly against the wall.

Windows and doors are painted grey or green which seems to be fashionable - glazing is then carried out with Kristal Klear. This addition is glued to the building.

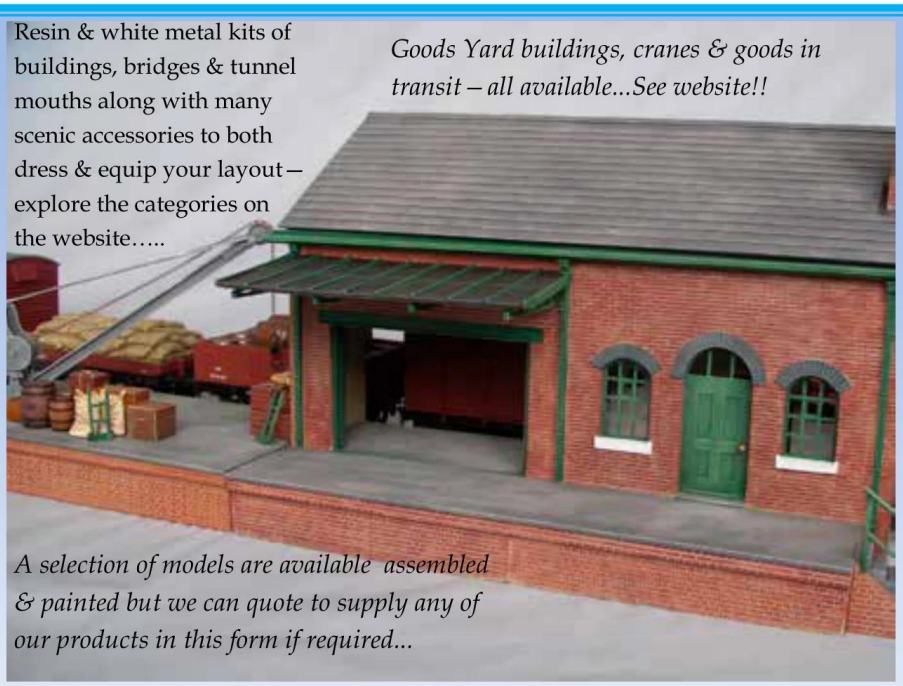
Skytrex Model Railways - "O Gauge"

7/156 "O Gauge" Corrugated Goods Shed Kit—cast in resin & white metal - £45.00 plus P&P – As featured in this issue!!



Resin & white metal kits of buildings, bridges & tunnel mouths along with many scenic accessories to both dress & equip your layout—explore the categories on the website…..

Goods Yard buildings, cranes & goods in transit – all available...See website!!



A selection of models are available assembled & painted but we can quote to supply any of our products in this form if required...

O Gauge Brick North Lights:

SMRS37	Single-storey,2-bay,L.H. facing N.L. facade	£15.00
SMRS37A	Single-storey,single-bay, with office/door	£7.50
SMRS37B	Single-storey,single-bay, with loading bay	£7.50
SMRS37C	Loading bay interior for SMRS37C or SMRS38A	£7.50
SMRS37D	Single-storey,single-bay, with ground level doors	£7.50
SMRS38	Two-storey,2-bay,L.H. facing N.L. façade	£25.00
SMRS38A	Two-storey,2-bay, with loading bay & office	£25.00
SMRS39	Brick loading dock platform section	£7.50
SMRS39A	Brick built loading dock ramp & steps	£7.50
SMRS42	Lean-to admin block	£15.00
SMRS42A	Lean-to toilet block	£15.00
SMRS42B	Lean-to "boiler house"	£15.00
SMRS43	Shallow relief roof sections for 2-bays	£7.50
SMRS44	Single-storey, shallow relief return walls	£7.50

Unit 1 Charnwood Business Park
North Road
Loughborough Leicestershire LE11 1LE
tel: 01509 213789

www.ogauge.co.uk
E-mail: sales@skytrex.com

Skytrex Model Railways - "OO Gauge"

4/052 'OO' derelict stone barn
£10.00 plus p & p

An attractive scenic feature piece cast from an original master sculpted by *David Wright* of *Dovedale Models.*

This one-piece resin casting has a foot-print of 125 x 73 mm including steps and is 77mm tall.

For imaginative ways to use this building see *Phil Parker's Barn Conversion* article in this issue!

OO Accessories:

4A/001	10 Large Wooden Barrels	£3.50
4A/001A	Bumper Large Barrel Pack	£15.00
4A/002	Clusters of Large Wooden Barrels	£5.00
4A/003	Horizontally Stacked Large Wooden Barrels	£4.00
4A/004	Vertically Stacked Large Wooden Barrels	£4.00
4A/005	10 Bales of Wool	£3.50
4A/006	10 Wooden Crates	£3.00
4A/007	10 Wooden Crates	£3.00
4A/008	10 Medium Wooden Barrels	£3.00
4A/009	15 Small Wooden Barrels	£3.00
4A/010	10 Railway Sleepers	£3.00
4A/010A	6 Piles of Railway Sleepers	£3.50
4A/011	Stacked Bales of Wool	£4.00
4A/012	10 Oil Drums	£3.00
4A/013	7 stacks of Wooden Crates	£5.00
4A/014	10 Long Wooden Crates	£3.00
4A/015	10 Wooden Crates	£3.00
4A/016	10 Large Wooden Crates	£3.00
4A/017	20 Small Wooden Crates	£3.00

OO Lineside Accessories:

4LS/001	SR Water Column	£4.50
4LS/002	2-Bay Coal Staithe	£4.00
4LS/003	NER Platform Water Crane	£7.50
4LS/004	GWR Platform Water Crane	£10.50
4LS/004A	GWR Ground Water Crane	£10.50
4LS/005	2 Ton Yard Crane	£9.50
4LS/006	Pair of Sleeper Built Ballast Bins	£2.50
4LS/007	Sleeper-Built Platform Section with Steps	£5.00
4LS/007A	Sleeper-Built Platform Extension Section	£4.00
4LS/007B	Sleeper-Built Platform End Ramp	£4.00
4LS/007C	Sleeper-Built Steps	£2.00
4LS/008	Midland Water Column	£5.50
4LS/009	Sleeper-Built Coaling Stage	£7.50
4LS/010	LNWR Water Column	£5.50
4LS/011	Diesel Fuelling Point kit	£15.00
4LS/012	Canal Boat Kit	£17.50

Building components:

OO Brick North Lights:

4/001	Single-storey L.H. facing N.L. facade	£6.00
4/002	Single-storey R.H. facing N.L. facade	£6.00
4/003	Two-storey L.H. facing N.L. facade	£12.00
4/004	Two-storey R.H. facing N.L. facade	£12.00
4/005	Three-storey L.H. facing N.L. facade	£17.00
4/006	Three-storey R.H. facing N.L. facade	£17.00
4/007	Applique doorway & steps	£5.50
4/008	Applique loading bay	£8.50
4/026	Pair of single bay return walls	£5.00
4/027	Pair of single bay engine entrances	£5.00
4/028	Three bay roof ridge piece	£7.50
4/029	Three bay standard N.L. roof panel pack	£6.00
4/030	Three bay engine shed roof panel pack	£7.50
4/031	8 right angle construction aids	£4.00
4/041	N.L. warehouse/factory building kit	£55.00
4/042	N.L. engine shed kit	£45.00
4/062	Pair of single bay, upper storey return walls	£4.00

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North Road
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tel: 01509 213789

www.skytrexmodelrailways.com
E-mail: sales@skytrex.com

How to...

BUILD YOUR FIRST ETCHED BRASS KIT

Don't be shy about building your first brass kit, says Phil Parker, who recommends this shed kit from Roxey Mouldings as an ideal starter project.

Many modellers consider those proficient at building brass kits as modelling gods. This isn't really the case, because etched kit assembly is similar to putting cardboard models together - the biggest difference is that the glue is solder and you apply it hot.

There are techniques to learn and practice will make you better at applying them, but unlike a card kit, you can always re-melt your solder, clean it off and try again.

Don't pick an expensive locomotive kit for your first attempt. You might aspire to build an LNER Garratt or Fell Diesel, but these are models to work your way up to. A simple garden shed, on the other hand, how tough can that be?

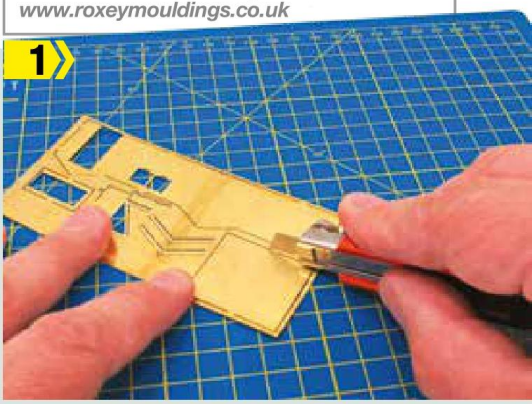
Judging by one of the sheds a few doors away from my house, so long as some of the walls are upright, the model will be realistic. It won't matter how badly you build the model, it will be good enough for use on a layout. Add foliage over areas you aren't happy with – not possible with a locomotive.

Roxey's kit is an ideal model for beginners. You do all the basic etched kit jobs – releasing parts from a fret, folding them, aligning parts using tabs and slots and then soldering. There are some etched kits designed for glue assembly, but this isn't one of them. Soldering is easier and quicker for this model.

More importantly, the skills learned will be useful for many years to come. Invest a little time and effort and you'll never know what you'll build next. ■

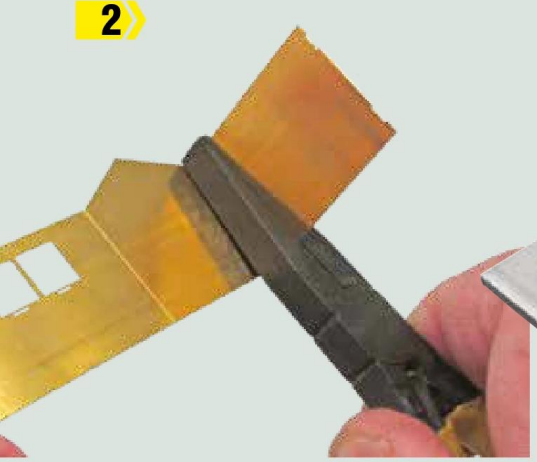
What we used

Roxey Mouldings
4B12 Garden Shed with Apex Roof
www.roxeymouldings.co.uk



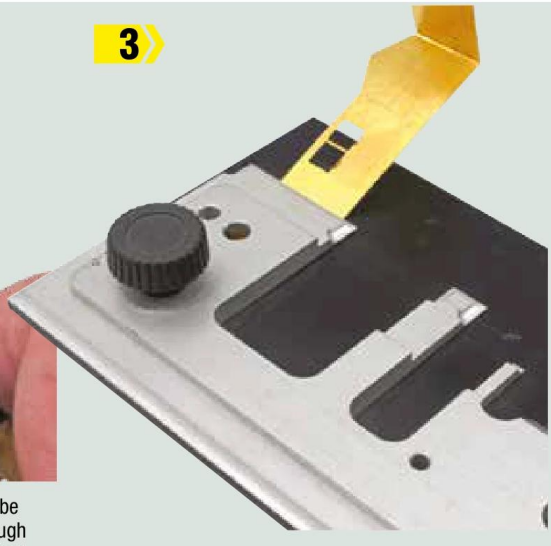
All parts are attached to the brass fret with little tabs. These can be cut through with a sharp knife. Once free, file along the length of each side to clean remaining tabs.

2



Turning a flat kit into a 3D object requires parts to be bent. The designer will have half-etched lines through the metal to assist the modeller. Fold the brass with the line inside the bend. Support it along the bend using flat pliers to ensure the bend is along the line you want, not along the plank lines half-etched on the outside of the model.

3

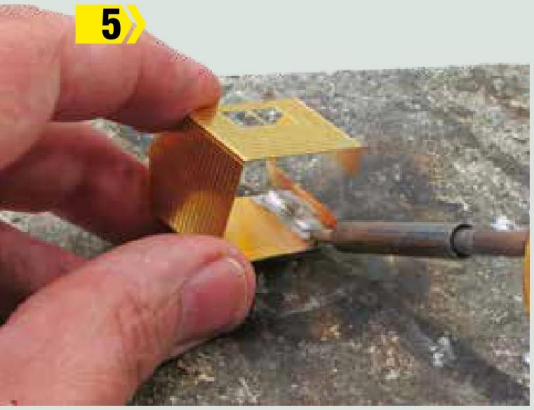


Pliers are the simplest and cheapest aid to bending brass. If you plan to build many etched kits, a Hold'n'Fold tool is a worthwhile investment because the different-sized tongues make forming even tiny parts easy. The tool isn't cheap, but it'll last a lifetime.

4

The first soldered joint is called a tack. It's nothing more than a blob of solder to hold parts together to check their alignment is OK. Make sure the metal is clean, slap on some flux, then carry a blob of solder to the joint on the tip of the iron. I'd normally do this inside the joint, but sometimes making the tack on the outside is easier because you can see what you are up to. If the parts aren't aligned, heat the solder and try again. Remember, this is only a temporary joint. It doesn't need to be pretty.

5



With everything where it should be, put flux inside the corner and a bring a small amount of solder to the joint. I'm making this one in two halves, so there's not enough heat in the metal to melt the tack on the outside. This is the final joint, so take time to make it neat. Don't worry, if it goes wrong, just clean away the worst of the solder and try again.

6

Now it's time to clean the tack joint. Scraping or filing can be a start, but it's easy to scratch the metal surface so I prefer to use a fibreglass pencil to wear away the solder. This takes a little while, but you'll be surprised how quick the process is and, more importantly, how neat the results are.

7

The window sill is held in place by a couple of tabs pushed through slots in the wall. Blobs of solder on these inside the building are enough to hold it in place. There's no need to solder all the way because it isn't structural.

8

To hold the door frame in place, I'm using a couple of hair clips. I could tack it in, but the clips are enough to keep it there while solder is run around the inside of the metal – another joint that doesn't need to be pretty. These clips are so cheap that I have a supply of modified (bent, legs shortened or removed) versions for jobs like this.

9

Bend the roof so that it's a really good fit above the shed, then fit it to the barge-boards. Joints like these are best made with little solder. If the parts stay attached, you've used enough. Note the lolly stick under my finger to protect it from the heat. This metal will get pretty toasty while I'm soldering!

10

To laminate two parts such as the door framing, tin the back of the framing. Tinning is coating the metal with a thin layer of solder. Clean metal, plenty of flux and a miniscule amount of solder goes a long way.

11

Give the door face a polish with the fibre pen, then smear with flux. Fold the tinned framing over, push it down with a little wood and heat the solder-free back of the framing. The solder should bubble at the edges indicating it's melted. Remove the iron but keep the pressure on the framing while it cools. If this doesn't work first time, add more flux and heat it up again.

12

According to the instructions, the hinges can be made to work, but that sounds a bit fiddly to me, so I'm folding them at 90 degrees and attaching them to the sides with less than elegant blobs of solder. The door when open hides the blobs.

Soldering Tools

My soldering iron is a 45W Antex, which I've owned for at least a decade and have built many kits with. For structural soldering you need at least a 25W and there are lots of suitable tools on offer. For this model I used the standard 3mm-wide bit, but smaller tips are available for fiddlier work. These slip over the end of the heating element. The other essential in this picture is the soldering iron stand. As well as giving you somewhere to put the iron when you're not holding it, the damp sponge in the base keeps the bit clean as long as you remember to wipe it regularly while working.

What's the difference between electrical and structural soldering?

In a word, technique. With electrical soldering, you heat up the joint and apply solder. That's why the solder has a flux core, it makes the solder flow.

We need more solder for a structural joint so have to carry it on the tip of the soldering iron. While doing this, the flux in the cored solder boils away, hence we need to add flux to the joint and bring the molten metal to it.

1: Solder. I'm using normal cored electric solder, a 60:40 tin:lead mix. There lots of different temperature solders available and they all have their uses, but this is fine for your first kit. Lead-free solder is also available, but you need a high silver content for it to flow properly so the price tends to be high.

2: Flux. Without getting into the chemistry, flux lubricates the soldering process by improving the solder's flow. There are lots of different types of flux, but for most work I tend to use a general-purpose paste type.

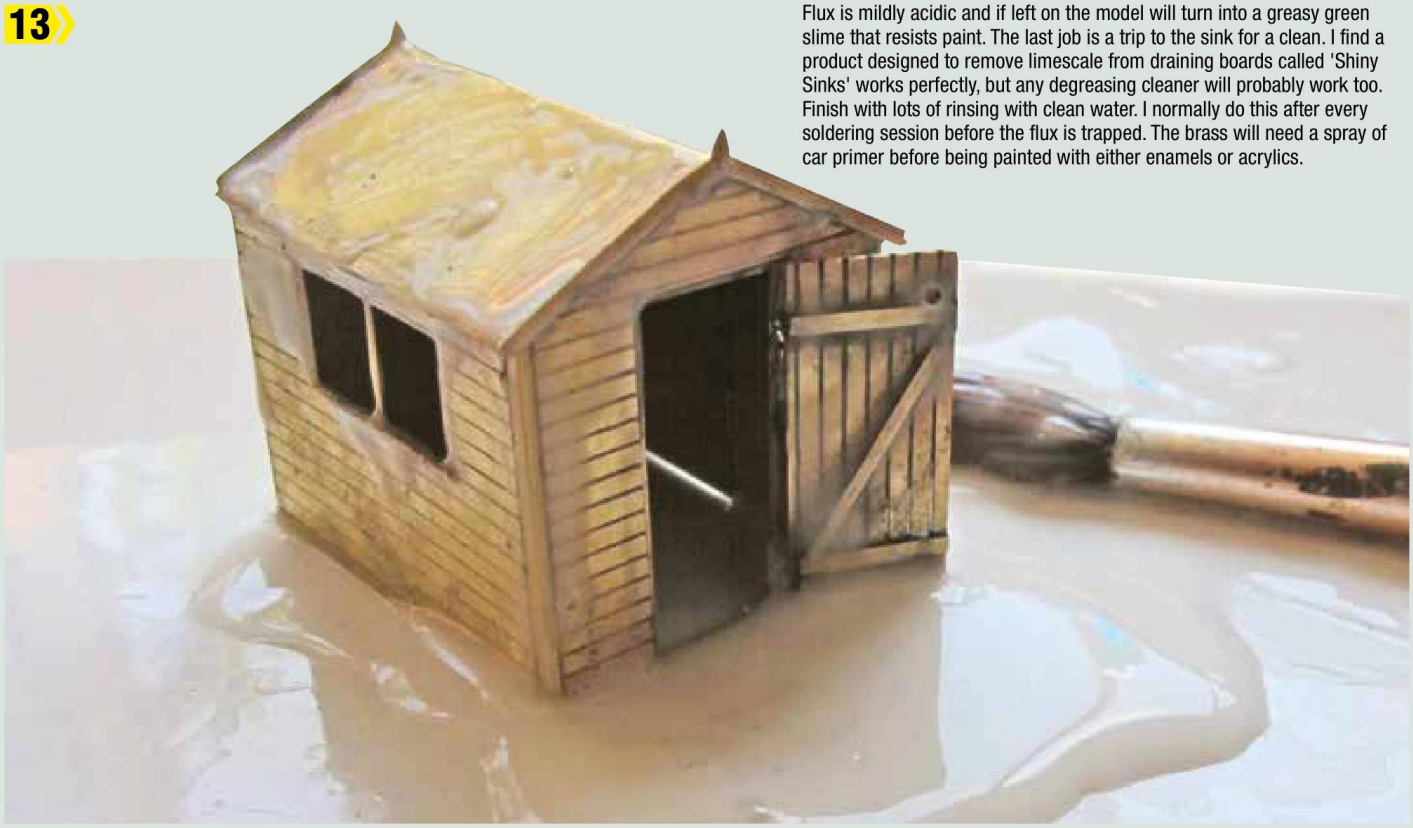
3: A cheap brush to apply flux to the joint. Don't use anything good, as it won't do the bristles any favours. Once you've used it for flux, you can't clean it up for paint.

4: A fibreglass pencil, for cleaning the metal before soldering and removing excess solder. The bristles will fill up with flux, so don't use the same tool for locomotive wheel cleaning. Fatter fibreglass sticks are also available for the same job.

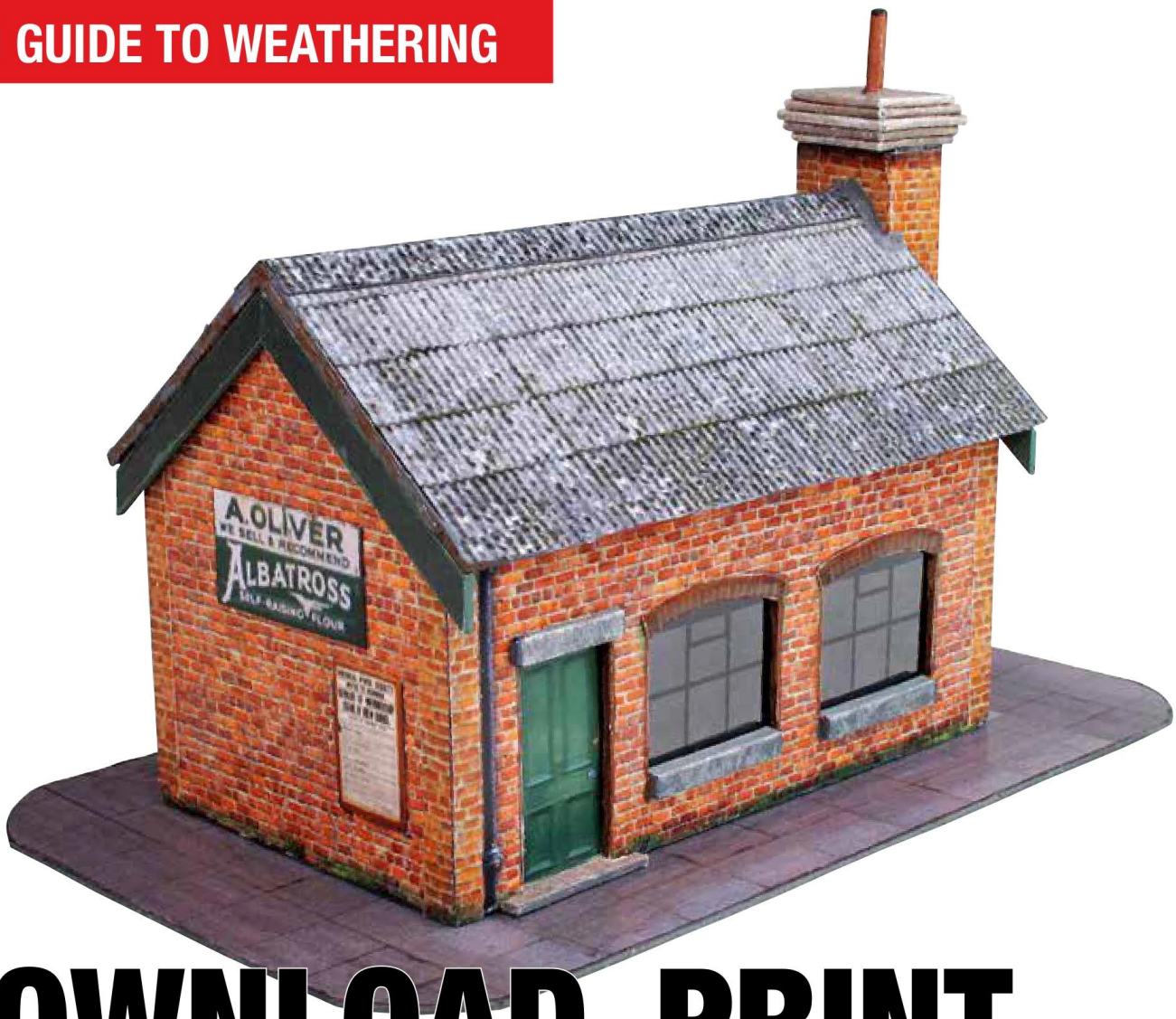
5: Ceramic plate. While not an essential, a heat resistant flat surface is important. I used bits of wood for years. They work, but the surface gets burnt, soaks up flux and generally becomes a bit unpleasant. This plate came from a jewellery supplier, but many model railway tool sellers stock them too.

6: Flat-faced pliers for bending metal along half-etched fold lines. Those with serrated faces for grip can damage the thin metal.

13



Flux is mildly acidic and if left on the model will turn into a greasy green slime that resists paint. The last job is a trip to the sink for a clean. I find a product designed to remove limescale from draining boards called 'Shiny Sinks' works perfectly, but any degreasing cleaner will probably work too. Finish with lots of rinsing with clean water. I normally do this after every soldering session before the flux is trapped. The brass will need a spray of car primer before being painted with either enamels or acrylics.



DOWNLOAD, PRINT AND BUILD

Paper and card kits are a cost-effective way to assemble layout architecture, as Michael Russell proves with this print-at-home kit from Canadian manufacturer, 3DK.

I've always been sceptical of cardboard buildings, because those I've used in the past really did look like they were made from cardboard. That was many years ago, though, and I'm happy to report that modern kits and the improvement in print technology have changed the situation.

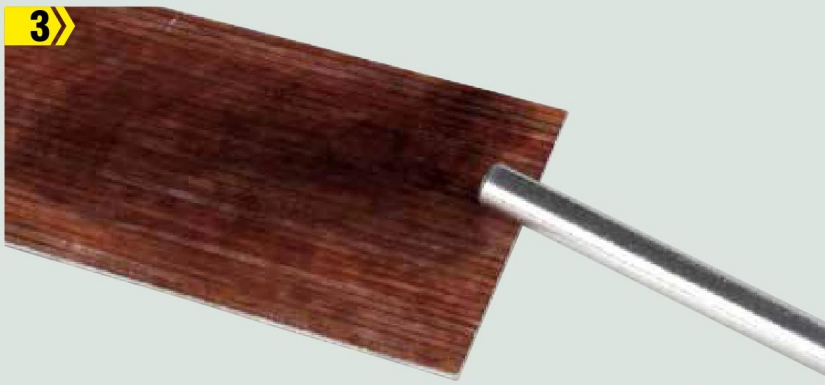
You can now make realistic models with a little effort. This downloadable brick office kit from 3DK is a good example of the genre, and is a simple step to make your first building. All you have to do is visit the website, pay a small fee for the kit of your choice and download a .PDF file to print at home or at your local printers. There's no restriction on the number of times you can print the kit, so it's an economical way to make repetitive buildings such as terraced houses.

Lots of us are lax at reading instructions, but I recommend that you do because they're very good. The terms used are explained by means of a labelled picture – indispensable information for a beginner. I had my kit professionally printed on 1mm card and plain paper, but a better option is to print onto A4 self-adhesive labels, then apply this to 1mm card when required. ■

"architectural terms are explained by a labelled picture – indispensable"

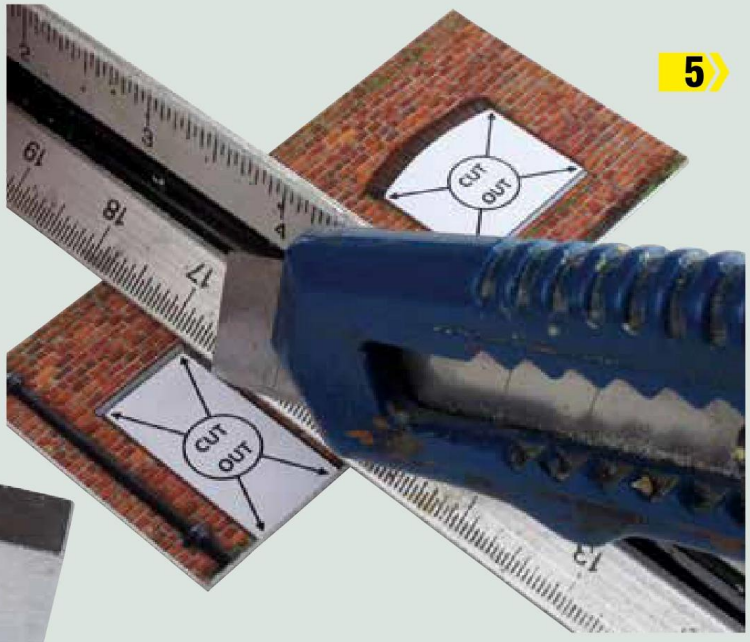
You'll need a steel rule, scissors, the kit printed out onto self-adhesive white labels, 1mm thick card, a craft knife, felt tip pens or acrylic paint and fast-setting glue. A good quality 'self-heal' cutting mat is also recommended.

To avoid damage to other parts and to minimise the amount of card you have to cut through, roughly cut out each piece as you need it using scissors. Only separate it from its label when you're ready to use it; particularly if, like me, you keep switching between modelling jobs.

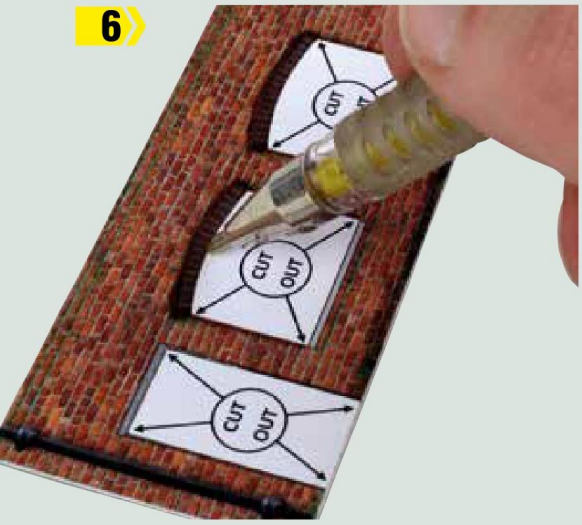


After making a cut, use the handle of the knife to burnish any raised edges caused by the cutting process. Be careful of doing this on freshly glued surfaces as you can tear the paper.

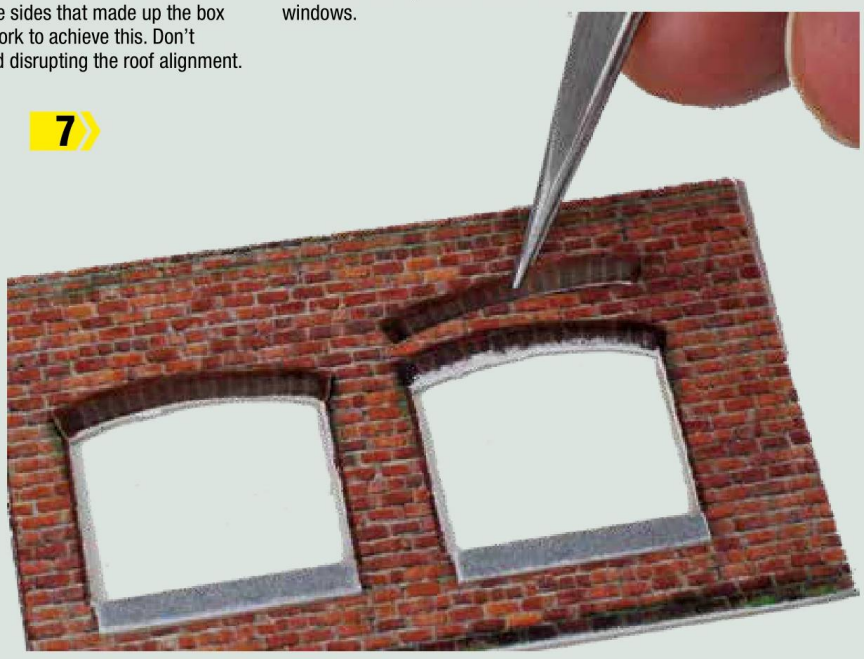
When gluing the walls together, ensure they're square and that the sides that made up the box of the building are all the same length. Cut slightly into the brickwork to achieve this. Don't forget to remove equal amounts from each gable wall end to avoid disrupting the roof alignment.



Windows and doors are the most difficult area to cut out with this kit. Cut away from the corners, not into them and tackle the door first – it's easier than the windows.



The windows include a curved section that's more difficult to cut out. I used a ballpoint pen that had run dry to indent the card before making the cut. It's easier to control freehand than the knife. Cut along the score made using a fresh scalpel blade.

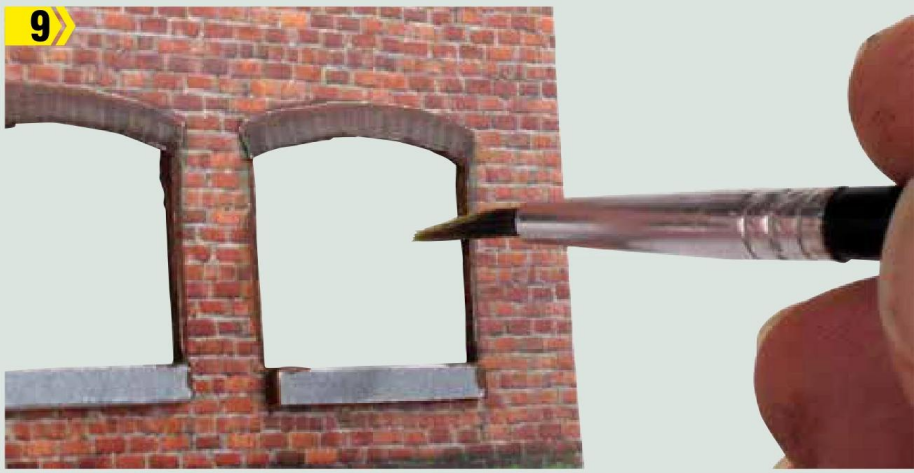


You may find it difficult to get a clean cut on the inside of the arches. You can print these again onto plain paper and glue them as overlays to hide damage.

8

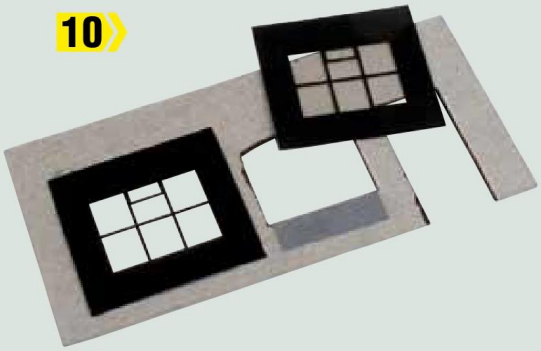
When gluing the internal walls, fit the two gable walls first, ensuring that the walls are centred on the apex of the roof, then add the rear internal wall.

9



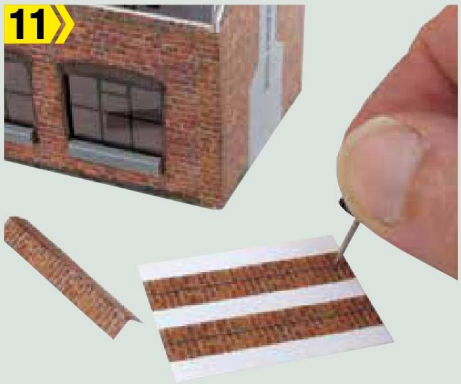
Painting exposed cardboard surfaces, such as around windows and doors, is a small task that has a huge impact on the appearance of any cardboard building. I used neat Burnt Umber acrylic paint straight from the tube for brick areas.

10



The windows were printed using an inkjet printer onto clear acetate (OHP transparency film). I glued the printed side facing inwards to give increased protection against water splashes. Take a moment to centralise these properly in the frames while the glue is wet.

11



When fitting the corner covers, mark the centre line with a pin on the printed side. Then, turn over and score between the pin holes. Ensure you get a straight fold and be gentle when handling. Once in place, slide gently until the brick courses align.

12

Some structures must be glued and left to dry before they can be wrapped in brick paper; for example, the chimney base. If you complete such items out of sequence in one session you can speed up production time, as you won't have to wait for glue to dry.

13

Wrapping the chimney in its brick covering is probably the trickiest part of the build. Cut carefully away from the corners to free the part.

Cutting sharp

It is essential to keep your blade sharp - card blunts knives surprisingly fast. It's better to do this little and often, so I recommend passing the blade over a sharpening stone between each series of strokes used for a cut. Snap-off blades, often used in DIY knives, are ideal and it's a good idea to start with a fresh blade every now and again, and especially if you are working on windows, door apertures or anything curved.

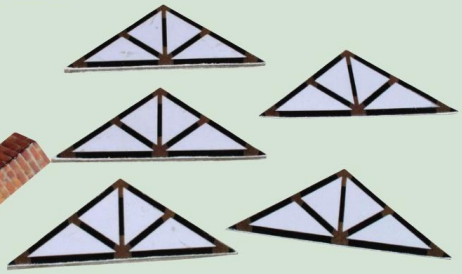
14

Get the wrapper into place quickly when gluing. Use a seam roller to get an even finish without any rucks.

15

I found I had a gap at the base of the chimney and a seam visible above the roof line, so I added a wrapper and a spare corner cover to hide these. If you build from more than one set of prints, I recommend using the same printer to match the colour and sizes.

16

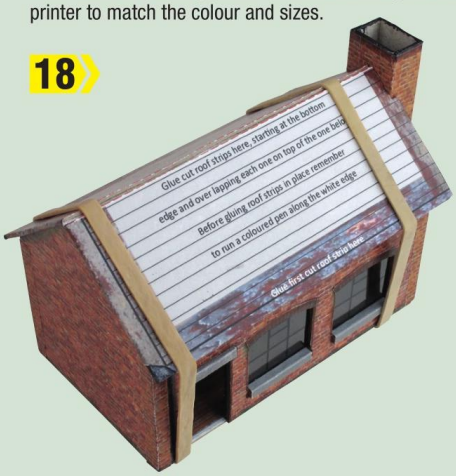


The roof trusses have white centres that can be cut out. This is a delicate task and I didn't bother. It reduces strength and the roof trusses aren't visible from outside the building.

17

I deviated from the instructions and used four trusses in the centre of the building and decided to forego the two on the gable ends. Use a rule to ensure that they are lined up otherwise your roof will be distorted.

18

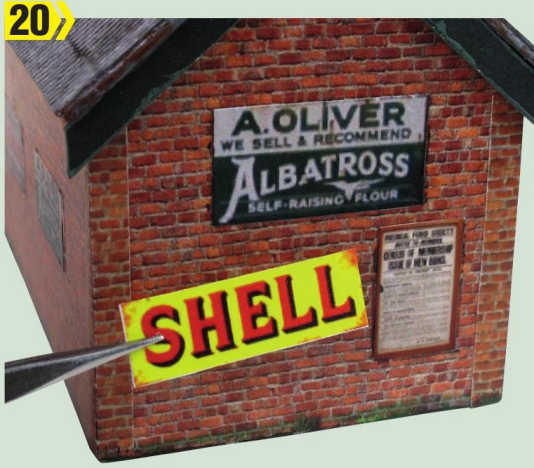


Use rubber bands to hold the roof in place whilst the glue dries.

19

Add flashing from tissue paper around the joints between the roofs and vertical surfaces. I've used silver paper in the past which, whilst being too shiny, moulds well to contours.

20



There are lots of advertisements included with the kit and these add extra interest to the building.

21

At the end of the build have a close look for pieces of un-coloured card or paper. I noticed the inside of the bargeboards had been missed, and so touched this area up with a matching acrylic paint.

Top tip

To make a cut, always use a steel rule and make several light passes with the knife. You need to hold the rule steady to ensure it doesn't move whilst pressing down lightly with the cutting blade. It's a bit like patting your tummy and rubbing your head at the same time! I find it easier to grip the rule from below the bench to pin the work to it rather that then to press down. It'll soon become second nature.

KS Laser Designs Ltd

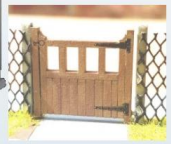
All our kits are Laser Cut in England from MDF, PLY, acrylic

See the full range of items on our website

www.kslaserdesigns.com

Goods Sheds—
N, 00 and 0 gauge

Plat Layers Hut— G

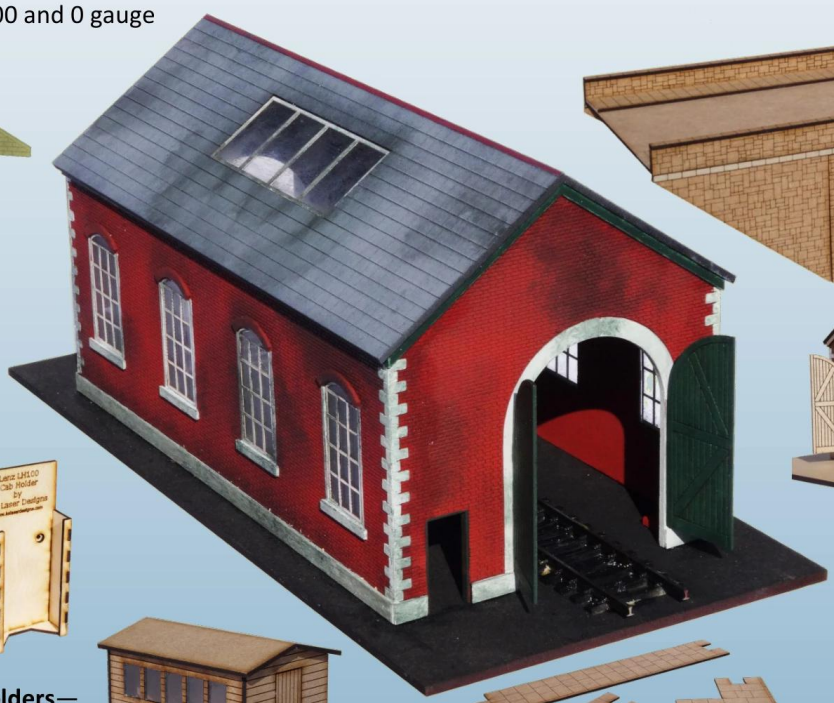


Cable Drums—
00 and 0 gauge

Gates— 00 and 0 gauge

Engine Sheds—
N, 00 and 0 gauge

Tunnel and Bridge Mouths—
N, 00 and 0 gauge



Bridge Kits— N and 00 gauge

Goods Sheds—
N, 00 and 0 gauge

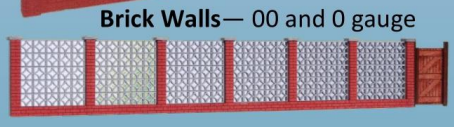
Cab Holders—
See website for range

Sheds— N, 00 and 0 gauge

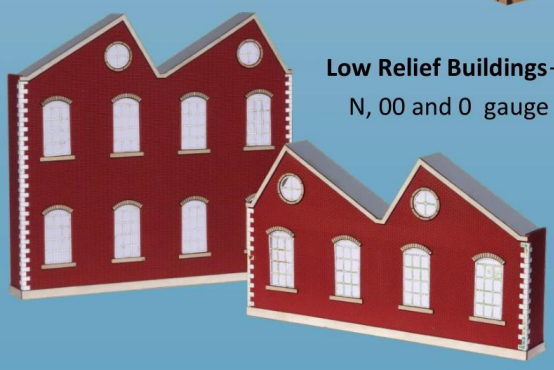
Paving— N, 00 and 0 gauge

DMU/Carriage Stabling Platforms— N, 00 and 0

Brick Walls— 00 and 0 gauge



Support Wall and Low Relief Arches— N, 00 and 0 gauge



Low Relief Buildings—
N, 00 and 0 gauge

All kits come unassembled and will need painting.