

Working with Resin Models

This article will run through the basic techniques and methods required to get the most out of preparing, cleaning up and assembling Forge World's resin kits. If you need extra help with your Forge World products, we're always happy to offer advice on assembly techniques or painting enquiries. If you have any queries or problems, don't hesitate to **contact us**

Tools

Most of the following tools are available from either your local Games Workshop store or any good modelling store. When using tools please make sure to read and follow the manufacturer's guidelines and use them with care, as these tools can be dangerous if improperly handled.

Craft Knife

Depending on where you live, it can be difficult to obtain good craft knives, but nonetheless you *are* going to need one. If you only buy one tool, make it a good knife - it will be necessary for cleaning up castings prior to assembly. It is also worth buying a proper cutting mat to use with the knife so that you can avoid cutting directly onto your work surface (especially if it's the dining room table!).

Clippers

Clippers are useful for removing pieces of resin that are too large to safely remove with a knife, and for snipping both resin and plastic components off their sprues.

Saw

The most useful type of saw when modelling will be a jeweller's saw and/or a razor saw. A jeweller's saw gives very fine cuts but the blades are quite fragile. A razor saw is more substantial but won't give as fine a cut. Both are far more suitable than something as imprecise as a Junior Hacksaw, which we have seen in people's modelling kits.

Drill/Pin Vice

Larger, heavier resin components often benefit from a strengthening metal pin when glued together, and a small hand drill (often referred to as a pin vice) is an invaluable tool. It can also be used to drill out gun barrels and to add damage for added realism.

Files & Sand Paper

A set of files is the another extremely useful part of your tool kit, and are used for cleaning and smoothing castings and filing pieces 'to fit' where necessary. Files come in different profiles - flat, round or half-round, for example - and it is a good idea to have a selection. Sand paper or sanding

pads are also useful for sanding larger areas and smoothing trimmed or sawn areas after larger gates or vents have been removed.

Variable Speed Rotary Tool

Several different manufacturers produce rotary tools, such as Dremel and Minicraft, and most come with a wide variety of different drill bits and heads for almost any type of task. A rotary tool can be used any time you need to sand, file or cut something and will greatly increase the speed of these tasks. It is, however, a tool for the experienced modeller and should be used with care – eye protection and a dusk mask are advised.

Super Glue

We recommend a good quality super glue to assemble Forge World kits. Citadel super glue is easily available from Games Workshop stores, and all modelling shops carry a wide variety of different thicknesses. Load-bearing joins will often benefit from the use of a 2-part epoxy adhesive such as Araldite (or similar), especially if you intend to use Titans or Thunderhawks on the tabletop.

Dust Mask

The resin that we use has no inherent health risks, but we do recommend a dust mask if you are filing or sanding – as with any fine substance, resin dust can be an irritant.

First step

After opening the box and unpacking your kits, the first thing you do with your kit should be to lay out the components and check that they're all there. It sounds obvious but it is very easy to get carried away and start assembling the model without checking. A missing piece will, of course, stop you from finishing the construction which is far more annoying than finding that a piece is missing before you start. Forge World are more than happy to supply replacement components, so please contact us with your order number (listed on the invoice inside the box) or billing name and address to hand.

Preparation

There are several stages to prepping your kit before you begin the actual construction. They aren't all always necessary, but certainly won't do any harm either.

Washing

You may find that the components of your kit have a slight glossy sheen to them. This is caused by the release agent that our Production team use to remove the parts from the moulds.

You will need some warm water and a mild abrasive cleaner such as washing-up liquid. Simply place the parts into the soapy water and leave them to soak for 5-10 minutes, then thoroughly scrub each part with an old (and we stress old) toothbrush. This will ensure that any traces of release agent are removed, and you can then remove the parts, rinse them thoroughly and allow them to dry.

The glossy release agent can prevent undercoat and paint from properly adhering to the model when it's complete, and the scrubbing also gives a very slight abrasion to the surface of the model that aids the bonding of super glue.

Excess Resin

Just like metal and plastic models there will be excess material that needs removing from the model before assembly. The parts that need to be removed from a resin component can sometimes be larger, and of course must be removed with more care. These are an unavoidable part of the casting process, but can be easily dealt with.

Mould Lines

Resin components are produced from silicone moulds that usually have a split line. Consequently there will often be a slight line on the model that shows where the mould joins together, as you will also find on plastic and metal models. These are usually very fine, but nevertheless they will need removing so that they don't show up after painting, especially if you're airbrushing or using washes.

Mould lines can be removed with a modelling knife or file by carefully scraping or filing away the line. A smooth surface can be restored with some fine sandpaper. This shouldn't take too long and makes a big difference to the finished model.

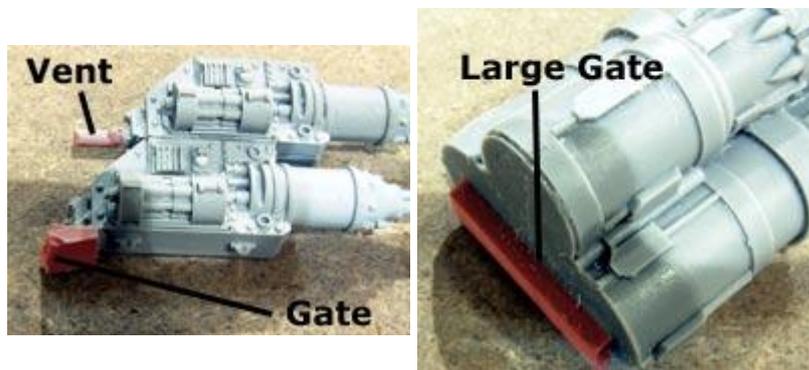


Gates

The gate is the area where the resin is poured into the mould. This is where you will find most of any excess resin that needs to be removed. A gate can appear in different shapes, depending on the detail and shape of the model. The most common are 'V' shaped pieces on a detailed or oddly-shaped component, or a large rectangle protruding from the contact surface of larger components.

These will need removing and may take some effort with the larger model kits. With smaller components, a pair of clippers and a file or sandpaper should suffice, however. Remove the gate at a point above where it joins

the component using your clippers. Don't snip it off right next to the actual component shape, though - clippers are quite a savage tool and often damage the areas on either side of where you cut. If you've ever tried to cut a metal figure in half with a pair of clippers you'll know exactly what I mean. After clipping most of it away use a file to remove the last of the gate and to ensure a smooth finish. With larger components, the gate will often be too big to remove with a pair of clippers. In this case it is best to use a saw. Unlike the clippers this can be done as close to the model as you like. It's usually best to do it slightly away from the join though just to make sure that any deviation in your cutting line doesn't affect the model. Again after the gate has been removed, use a file to ensure a smooth finish to your model.



Vents

Vents are small holes cut into the mould that allows air to escape when the resin is poured in. These are recognisable as thin pieces of resin leading away from the model. These should be removed in the same manner as the Gates above but are usually far easier to cut and smooth.

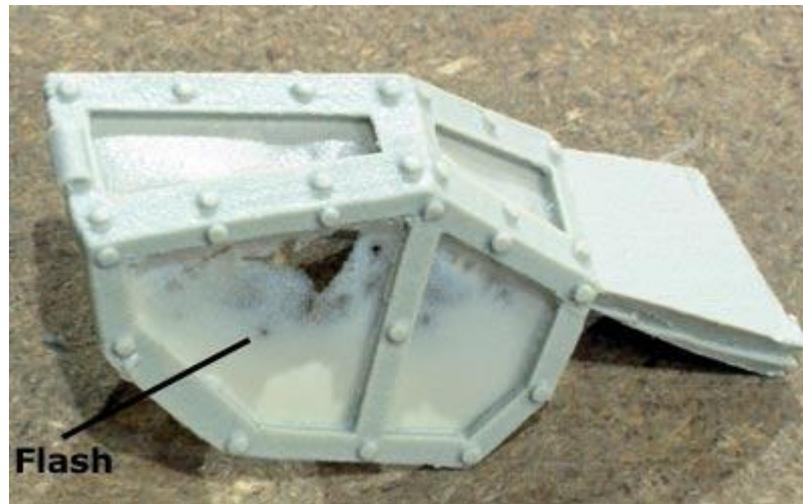
Surface Air Bubbles in Hollow Resin

The casting process for our new range of hollow resin scenery pieces means that occasionally small surface air bubbles form. These can easily be filled with a tiny drip of superglue – we recommend that you carefully pour a small amount onto a palette, then use an unfolded paperclip to drip a small quantity into the hole. Citadel Liquid Green Stuff is also a great way to fill these holes; especially as it can be mixed with water to reduce its viscosity.

Flash

Flash is formed in two ways. The first is deliberate; thin lines in the mould which allow resin to flow through the mould without filling a gap. For example, when casting a cockpit canopy spaces are required between the framework for the windows and to allow that gap the mould only has a very small gap for the resin to flow through. This leaves a thin membrane that can be trimmed away very easily using a good craft knife or scalpel.

The second way flash is formed is when the mould leaks slightly. This again leaves a thin membrane that usually fans out from the component. Just as with deliberate flash, this is easily removed with a knife.

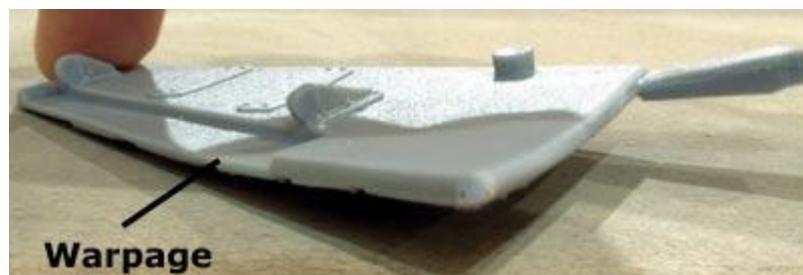


Warping

Warping can easily occur with thin components due to the casting process. To get a warped piece back into its correct shape, or position, or even to just reshape a piece like a tail, arm or tentacle, immerse the component in hot water.

You should leave the part in the water for roughly 5 minutes, then carefully remove it and gently bend it – you'll probably see the part straighten itself as the heat works through it.

With large components it is best to do this in stages. Bend it a little, allow it to settle and repeat until it is in the correct shape. Larger pieces may also require longer immersion to soften. If you don't want to use hot water then a hair dryer should give the same results, just don't let the piece get too hot (or blow away!). Do not heat resin with any kind of flame.



Assembly

Once the components have been washed and all excess resin has been removed the model is ready for assembly. If the model has any interior detail, now might be the best time to paint it, as it could be difficult once the model is assembled.

Before gluing the components together it is a good idea to dry fit them. A dry fit means test-fitting the components together without any glue, and this is a useful way to point out any potential problems such as uneven joins and slight gaps between the various components. If there is an uneven join just quickly take a file or fine sandpaper to it before gluing.

If there is a gap this will need filling. Glue the components together straight but don't worry if it leaves a gap (this was why you dry fitted it after all!). Once the glue has set, use a small amount of modelling putty, such as Green Stuff or Milliput to fill the gap. It's best to glue all your components that will need filling at the same time as it will save both time and putty. Once the putty has set it can be sanded flat to create a smooth surface that matches the components on either side.

Priming

We recommend priming your model with a fine matt car body primer, such as can be found in most hardware stores. Some model primers don't have the required solvent strength to adhere to resin properly on their own, and of course if the primer comes away then anything you have painted over it comes away too, which would be a bad thing. This pre-undercoat gives a consistency and uniformity to the surface, and can be seen in many of the photographs on the Forge World site that show plain grey models.

It's then simply a case of choosing your colour schemes and painting your model!