



Creating realistic weld seams

Far from “unseemly,” they’ll add authenticity to your models *Story and photos by Jeremy Pearse*

One thing is certain in modeling: details equal realism, and more details equal more realism. While some modelers enjoy the most painstaking, tedious detailing tasks, others have less time or patience. However, detailing your models with weld seams is one way to add a new dimension of realism without breaking the bank or costing an undue toll in blood, sweat, or tears.

There are several common methods for creating seams – plus two new ones I discovered by accident.

First, let’s look at the different types of weld seams you might have to replicate. Back when I used to prepare, tune and race motorcycles, I often had to join two

pieces of metal, so I learned to use an arc welder. It creates an electrical arc between the welding rod and the materials you’re welding. The very high temperature fuses the metal of the welding rod with the metal parts and forms a strong bond. The resulting weld looks like a raised semicircular bead of metal with a distinct texture – once the hardened flux has been knocked off, **1**. Most ships and armored vehicles are constructed using this welding method.

I also used an oxy-acetylene gas welding set, which creates a very hot flame to heat the metal. Usually created with a hand-held welding rod, the weld bead is smaller and flatter, **2**. Gas welds vary in

Carefully replicated weld seams are among the many details that impart extra realism to Jeremy Pearse’s 1/12 scale Tamiya YZF-R1. Jeremy explains five methods you can use to do the same for your models.

size and shape, and on some larger armor vehicles they are wide and flat, **3**. The method you choose for adding weld seams to your models will be determined partly by the type of weld you are replicating.

Putty method. Putty is easy to use and gives good results, especially on the inside of 90-degree seams. Epoxy putty works best since it has a longer drying

time, but I have also used ordinary model putty or wood filler. However, model putty usually dries too quickly to use on long seams, and wood filler is quite grainy and crumbles if it gets too dry.

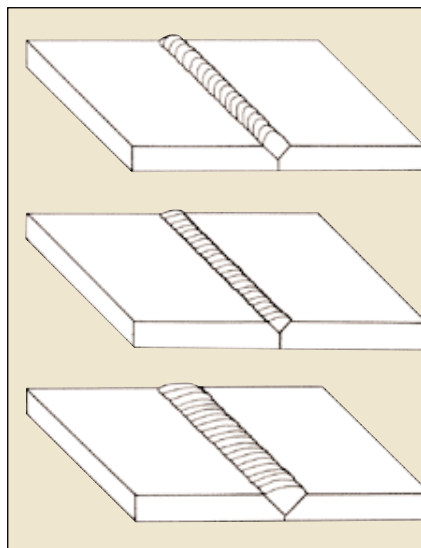
I usually mix a little epoxy putty and roll it into a thin strip, then lay it where I want the weld seam to be. After gently pressing the putty into place, I remove the excess and go back over it with a curved instrument (the head of a small nail will do) to lightly press in the texture, 4. If you are using putty to create an inside seam, dip a piece of sprue in water and drag it along the seam after applying the putty. This will remove most of the excess and also shape the seam – you can carefully scrape off the rest. Go back over the seam to carefully indent ridges into the putty.

This method can be harder to use on a flat surface where the weld seam stands out from the surrounding material. It can also be tricky to roll a thin, even bead of putty to get a realistic result, but other fillers are even more difficult to roll out.

Motor tool method. The motor tool method requires a steady hand and good eyesight. Using a motor tool fitted with a small grinding disk, I carefully run the tip of the disk in an up-and-down motion along the line where I want the seam to be, 5. This creates a textured indentation representing the weld seam, but it's easy to slip because the disk tends to wander on the plastic's smooth surface. One way around this is to run the shaft of the grinding bit (not the tip) along the edge of a metal straight edge for an even, straight line. I usually finish by lightly brushing liquid cement onto the weld seam to smooth the plastic a little.

It is easy to grind off too much material, and getting the grinding bit into small places can be difficult. Also, the resulting seam is carved into the plastic – no good if you want the weld bead to stand out from the surface. For that effect, first scribe a groove into the plastic where you want the weld bead to be. Then glue in a piece of stretched sprue with plastic cement – it should stand slightly above the surface. Now, using a small round bit in your motor tool, gently grind a weld-like texture into the sprue. This can produce good results, but the grinder is difficult to control.

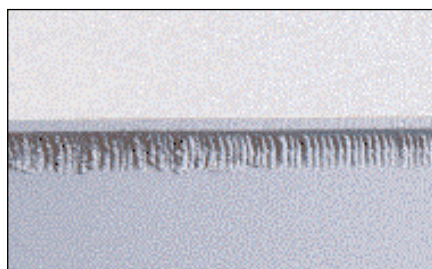
Pyrogravure method. The pyrogravure method uses a small soldering iron-like tool for engraving plastics. Genuine pyrogravures are hard to find,



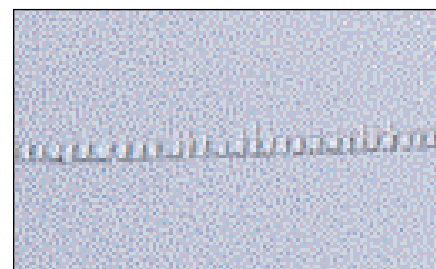
1 A weld seam created by an arc welder is semicircular and stands out from the surface.

2 The oxy-acetylene gas welder makes narrower, flatter welds.

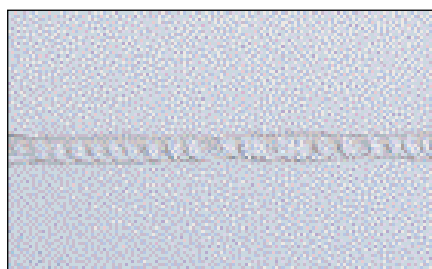
3 Welds on large armored vehicles may be quite wide and flat.



4 Jeremy created this weld seam using the putty method, which works best inside 90-degree seams.



5 The motor tool method carves a seam into the plastic rather than creating one that stands above the surface. It requires a steady hand and good eyesight.



6 With the pyrogravure method, you melt a seam into the surface of the plastic. Using different tips on the tool lets you create seams with different textures.



7 Jeremy developed the paint method in order to create weld seams on this Tamiya Yamaha motorcycle frame and swing arm assembly without damaging the chrome plating on the parts.



Meet Jeremy Pearse

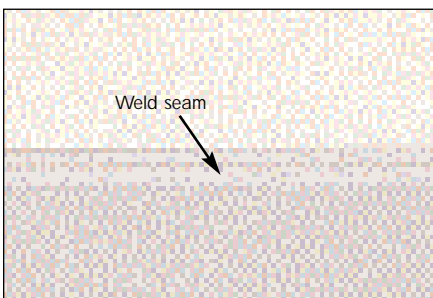
Jeremy Pearse was born in Devon, England in 1959. He came to the United States in 1992, and works as a professional artist specializing in birds and landscapes. He lives in Maryland with his wife, Monica.

Like many modelers, Jeremy began

building as a kid, mainly Airfix 1/72 scale World War I airplanes. He left modeling in his early teens, but returned to the hobby a few years ago. He concentrates on motorcycles and 1/24 scale racing cars, but also builds 1/35 scale armored vehicles and aircraft in all scales.



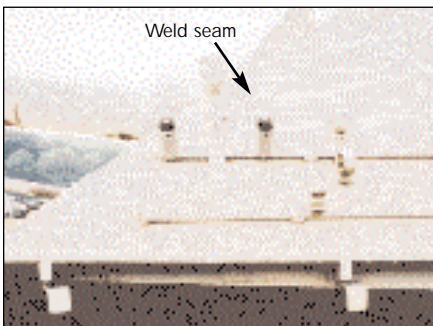
8 The first paint method was just the ticket for the welds on the expansion pipes for Tamiya's 1/12 scale Honda NSR500 motorcycle (left), as well as the frame on Protar's 1/9 scale Honda NS500.



9 The second paint method requires laying down a bead of paint along the seam. When it has partially dried, gently press in the texture with a curved object.



10 Careful masking helped produce a crisp painted weld seam on the front hull of Jeremy's 1/35 scale DML Panzer IV/70(A).



11 The weld seams on this Jagdpanther at Aberdeen Proving Ground are clearly flush with the surrounding plates.



12 Jeremy used the paint method to create the spectacular – and accurate – weld seams on his Tamiya Jagdpanther model.

but a wood-burning tool or a hot knife will work (Dremel's VersaTip tool, No. 1550, would serve well). I use a 220-volt soldering iron from overseas that gets just hot enough to melt plastic when plugged into a 110-volt outlet. The tip of the tool can be shaped with a file and will effectively create textures resembling weld seams when pressed into plastic, **6**. For a weld seam on an inside corner, it is best to first glue in a piece of stretched sprue and then use the pyrogravure to texture it.

This method requires caution because the tip will melt anything it touches. As with the motor tool method, you can use a metal straight edge to act as a guide, but be careful that it doesn't get too hot!

Paint method #1. I developed my

first paint method when I ran into problems building Tamiya's 1/12 scale Yamaha YZF-R1 motorcycle. I realized there would be some weld seams on the real bike. The parts had a semi-chromed finish, and since I didn't want to repaint the frame, I had to use something that was chrome-colored to start with.

Instead, I put a blob of Testor Model Master silver chrome trim enamel on a piece of card. After waiting about 10 minutes for the paint to thicken, I applied it to the seam drop by drop using the end of a straightened paper clip. This slowly built up a weld bead, and the result was wonderful – it looked just like the real thing, **7**. I could create weld seams wherever I wanted them, **8**.

Paint method #2. The second paint method is similar, but instead of creating the texture of the weld bead with the wire applicator, first put down a thin bead of paint along the seam. After the bead has dried a little, apply another thin layer of paint (an inside seam may need a third layer). When this layer begins to harden, gently press in the weld seam texture using a small curved instrument, **9**. I use the curved end of a pair of tweezers, a paper clip, or a specially shaped piece of sprue. Just remember: be subtle and don't push too hard.

If you want a narrower bead, use thinner wire; for a wider bead, use thicker wire or just spread the paint from side to side a little. You can use masking tape to keep things looking neat. Carefully burnish the edges of the tape so the paint doesn't seep underneath, and remove the tape before the paint dries, **10**.

For beads on sharp outside seams, try sanding off the corner slightly so there is something flat for the paint to sit on. Scrape mistakes away with a knife blade after the paint has hardened slightly. I use only silver chrome paint because the shiny surface makes it easier to see the results, but other kinds of enamel paint may work, too.

The paint methods often produce better-looking seams than the ones molded into kits. For instance, when I started building Tamiya's 1/35 scale Sd.Kfz.173 Jagdpanther, I found the weld seams around the main hull were represented by deep grooves. On the real vehicle, they are flush, **11**. I created a simple tool – a thin piece of wire pushed into a pencil eraser – and used it to fill in the grooves with paint. It took two applications, but the results were spectacular, **12**.

Before you try these methods, study weld seams on full-size vehicles for the correct shapes and textures. With a little practice you will soon be creating weld seams of your choice and adding that special finishing touch to your models. FSM

SOURCES

Epoxy putty Tamiya, 2 Orion, Aliso Viejo, CA 92656-4200, 949-362-2240, www.tamiyausa.com
 Motor tool, pyrogravure Dremel, 4915 21st St., Racine, WI 53406, 262-554-1390, www.dremel.com
 Silver chrome paint Testor, 620 Buckbee St., Rockford, IL 61104-4891, 815-962-6654, www.testors.com