



News and ideas about skilled trades, maintenance, and manufacturing

February, 2011 - The Art of Fabrication

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Working art

We have an artists' studio in the back of the ProBusS building. It's bigger than what you might visualize as, say, a painter's studio. But like the classic attic atelier, it's filled with raw materials for creating works of art: tools for drawing, painting, shaping, assembling, and finishing.

It's not always the most organized place. Okay, so it's a mess sometimes. For sure, we keep chemicals properly stored. And when we do anything with a torch or any potentially dangerous tool, we play it safe. No sense taking chances with the talent at work here.

Like any artist's studio, there's always something interesting going on. In fact there's usually six or ten interesting things in various stages of creation. So come take a look as we peek inside the ProBusS studio.

Creative inspiration

We're not creating impressionist paintings or marble statues in our studio. But not unlike da Vinci, we're blending science, engineering, drawing, and creative energy into some very interesting solutions.

Our inspiration comes from the needs of our customers. What's a better system for storing inventory? A fix to a leaking hydraulic system? A new way to wash the inside of a semi-trailer? How to re-use existing guard rails to create an entirely new rail system? We've tackled all of these needs for our customers, and developed innovative solutions.



Our process is a series of steps adapted to the project at hand:

engineering: we draw the solution, usually an object we need to form

cutting: raw materials are ordered and usually cut to size with one or more different tools such as a band saw, chop saw, etc.

forming: metals are heated and shaped, to create a shape needed for a solution; we bend metal tubing and work with other materials, too, such as wood, nylon, plexiglass, and other plastics

machining: mills, drills, lathes, and other tools are used to create a part or tool

welding: our primary means of metal fabrication; pieces are

assembled and welded into place per the engineering drawings, and checked for accuracy

assembly: after welded components are cooled, they're sand-blasted, primed, and painted; wood and other materials are assembled with fasteners, etc.

inspection: we carefully test and inspect our solution

shipping and installation: a ProBusS professional delivers and installs the finished product at the customer's site; we also sometimes fabricate solutions at the customer's site.

Steel sculpture

Recently, one of our customers needed racks for critical dies they used in their manufacturing plant. We engineered and designed the racks out of steel, with nylon glides. All fabrication was done in the ProBusS shop.



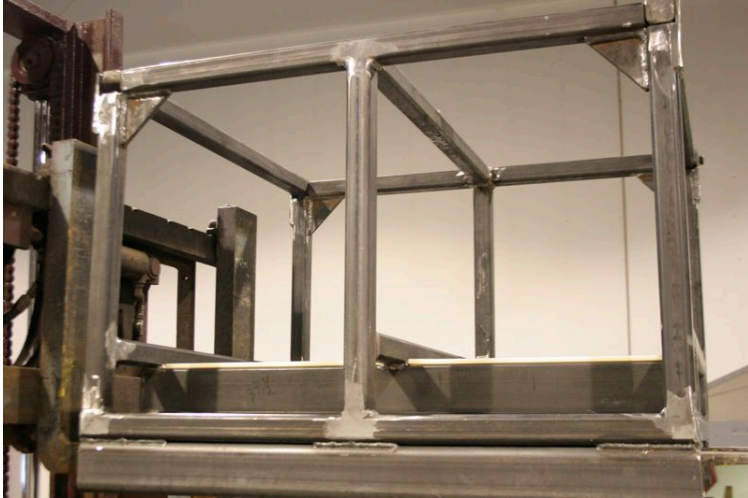
Each die weighs several hundred pounds and costs thousands of dollars to produce, so they needed to be protected. The dies in their racks would be moved by a hi-lo.



Steel tubing formed the basic shape. Engineering specs mandated no open tubes. A lot of welding, grinding, and finishing was required.



We created closures to make it easy to access the dies, and nylon glides to protect the bottom surfaces on the dies. Below, the finished rack is hoisted on a hi-lo and ready for final finishing and inspection.



Artists @ work

Stop by our shop sometime and see our artists at work. They don't dress like Renaissance painters; they wear standard work clothes, welding visors, safety glasses, and heavy gloves. Their media isn't Carrara marble but cold steel, hardwood planks, and chunks of brass and copper. But they are artists just the same, creating "working" art that serves the needs of our customers.

If you can't stop by, give us a call and **let us know your toughest fabrication problem**. We have artists standing by, with years of engineering expertise and experience, ready to help.

