

## Tech I, Part II: Tank Repair

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### Â Tech I, Part II: Tank RepairÂ Â Â

The objective of the Tech series is to demonstrate that the "ordinary" individual can perform tasks that would otherwise seem extra ordinary. Select the tools you'll need. It is easier to spend the money on a good set of tools, than it is to destroy an irreplaceable part because the wrong tools were used. I invested in a set of body hammers and dollies made by MAC Tools. When I purchased them seven years ago, the set cost about \$250. I no longer miss the money spent, but believe me, I would sure miss the tools every time I would want to work on a sheet metal project.

Take your time and think through a job. As the old man on "Orange County Choppers" said to one of his sons, "œMeasure twice and cut once.â•

I used three different dollies from the set to remove the dents in the tank. I had a pair of "shooters ear muffs" that I wore for this part of the work. Believe me, the noise will get to you in short order, the neighbors won't like it, very much either.Â

Even with the bottom removed from the tank, it is still difficult to get a hand filled with two pounds of steel dolly inside. Be patient and don't give up. I pounded the worst of the dents out from the inside using various dollies as hammers. Some sheet metal workers will have a leather bag filled with lead shot to lay their work on. A plastic or paper bag of play sand will also work well for this purpose. Lay the side to be pushed out down against the surface of the bag and begin tapping the dent out from the inside. Work around the dent as well as directly on top of the most depressed part of it. When your wrist becomes tired, take a break. Your project isn't going to sprout legs. You can come back to it later.

When most of the dent is removed, I take the dolly in my left hand (because I am right handed), and follow the now reduced indentations from the inside as I tap directly above the dolly from the outside with a flat polished body hammer. Some call it a "planishing" hammer. When striking against the surface that is backed up on the other side with a dolly, the sound emitted will have a distinct "clinking" to it. Unless you are "The Man of Steel", you will need to "see" work by listening for it.

When most of the surface is contoured approximately as I would want the finished tank to be, I once again repeat the last process, only now I gently side strike the hammer with glancing blows along the surface. You could also use a "slap" hammer for this. A "slap" hammer looks more like a curved flattened and polished piece of steel with a small tang on it than it does a hammer. This side striking is also known as "planishing", a form of polishing, or "smearing" irregularities on the surface.

Remember, the closer you move the metal back into its original shape, the less body filler will be needed.

Earlier, I removed the knee pad brackets with the intention of replacing them. Simply drilled out the spot welds and pried the brackets off. Motorrad Stemler has replacements in stock. See address elsewhere in this issue.

Back to the welder. First, he welded the new knee pad brackets in place through 1/8" (5mm) holes I had drilled in them. Then, after we wrestled the tunnel back into place, he purged the tank with argon gas with a tube fed in through the filler hole at the top, and stuffed paper towels around the opening to keep most of the oxygen out. This is a safety precaution.

Next, he welded the seams where the two pieces joined previous to cutting the tank apart. The seams had to be clamped as he moved along them. I got to move the clamps and direct where he would weld next. (I also got the privilege of paying the bill later on). These guys at Diversified Welding in Toledo are unusually easy to work with.

When I got the tank home, I plugged the fuel connections with plastic baggies and rubber bands, then filled the tank with ZEP Tub and Tile cleaner. This product contains phosphoric acid, which will dissolve ferric and ferrous oxides (rust). It also cleans the tank of any other residues. It is available at places like Home Depot, and sells for about \$5.50 per gallon. It takes anywhere from a half hour to several hours to completely remove all the rust from the inside of the tank. I hose out the tank after draining the cleaner back into the original jugs, then pour in about a cup full (1/4 liter) of denatured alcohol (free of water), and slosh it around. Dump it out, and repeat several times. The alcohol will absorb the remaining water in the tank. When the alcohol evaporates, the inside of the tank will be dry, and now ready for an epoxy rust preventive coating.

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There are many such coatings on the market. Some are sold with tank repair kits, while others are sold as epoxy primers. I prefer an automotive red epoxy primer made by PPG. Simply mix it, add a little thinner and pour it in the tank. Slosh it around until everything is coated, then dump it into a spare tin can for disposal. Set the tank out doors in the sun for drying and curing. The PPG product is identified as: DP74LF

There is a rubberized product that forms a rubber coating inside the tank. A good idea, but it has its problems. The rubber eventually comes loose forming a wobbly bladder that now needs to be removed.

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