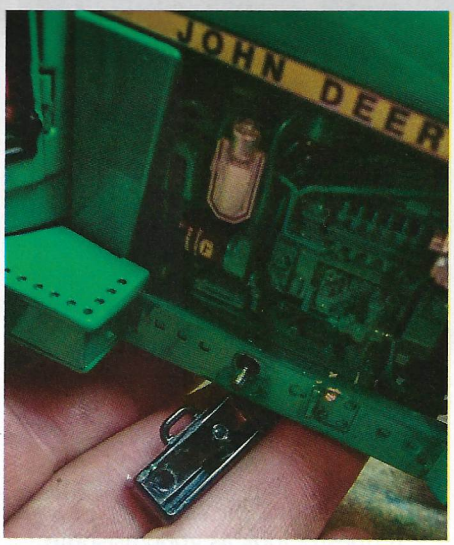
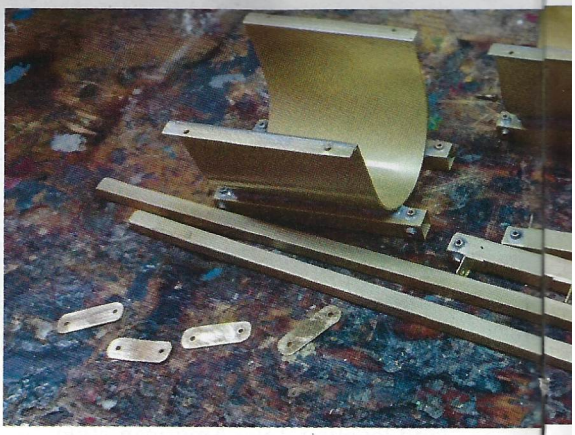


The toolbox is removed.

I use my Dremel vise to bend the flat stock around the deep well socket.



Converting a John Deere 4840

Part 2

Hello everyone and welcome back to "Down to Details." Last time, I started converting a John Deere 4840 that was traded to me with no front axle, weights or rear wheels. I promised you I would take this tractor to the next level and add more detail and that leads us to today, so let's get started.

This month, I plan to add a set of saddle tanks. We currently offer these bare tanks for sale through our website, www.chuckysprecisionspullersandparts.com, but not the framework to mount the tanks to the tractor. So my plan is to walk you through the construction of this framework. So, get your brass out, get your soldering iron ready and let's get the party started.

To start this project, I search the internet for the correct mounting framework for these tanks, since I have little experience with these tanks in the real world. I have only helped install one set of tanks in my life for a friend and he had a set of universal mounts, which can be known as one size fits all or one size fits none, depending on each kit. During my search, I realize that there are plenty of different mounting brackets for saddle tanks, so I decide to go with my personal experience and build a set of universal brackets.

With a plan, I look through my collection of brass for the material to start the build. First, I look for square tubing that will telescope inside of each other. I find 3/16-by-3/16 tubing and some 1/4-by-1/4 tubing, which will loosely telescope inside each other, which is good because the 3/16 tubing will have paint on the outside. Along with the square tubing, I need some angle iron. I find some 3/16 and 1/4 again, next some 2-inch flat stock and finally some 1/4 flat stock.

With the brass, I start with building the mount that gets bolted to the tractor. Using some of that 3/16 square tubing, I cut two pieces 1.75 inches long. Next, I mark these tubes 0.220 in from the edge and solder 1/4-inch angle iron pieces parallel to the lines, just marked using these angle irons as mounting brackets.

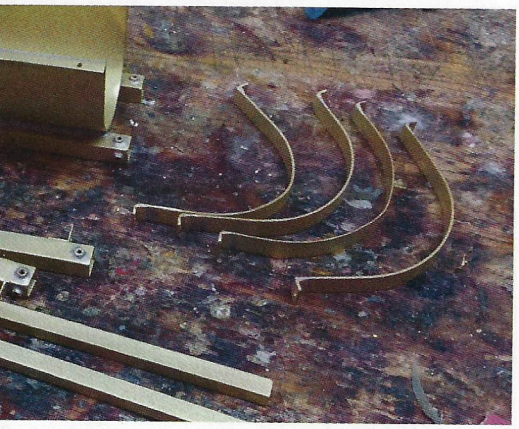
Next, I test fit these two brackets under the tractor and see that the best fit will be mounting this bracket around 0.400 of an inch under the tractor. To do this, I locate the spot on the frame I want to mount the bracket. With a little math, I determine that I want to be 0.700 from hole to hole on the hanging mounts. With that knowledge, I cut some 1/4 flat stock 0.900 long, then drill a 0.060 hole in 0.100 from each end. With these holes drilled, I proceed to drill the frame of the 4840 with a 0.052 drill bit then tap those holes with a 0-80 tap. Starting with the left-hand side of the tractor, things are going great. I spin the tractor around and the stupid stick hits me in the head!

As I flipped the tractor around to start drilling and tapping the right side of the tractor, I realize that the right side of the tractor has a toolbox mounted to the side of the frame rail right where I need to bolt the rear-hanging mount. So I am scratching my head, wondering what to do.

From my past experiences with the Precisions, I have found that these toolboxes have a screw bolting them to the frame rail. The correct way to remove the screw is disassembly of the tractor almost down to the last screw, so that really does not seem like a plan. So I see if I can pry off the toolbox. I use a small flat-tipped screwdriver to get behind the toolbox and begin to pry. Slowly, but surely, the toolbox comes free from the tractor, but it still leaves the screw that held the toolbox to the frame. I try my best to get the screw out, but I realize the screw is there to stay. Plan B is to cut the screw flush with the frame and using the hanging bracket to cover the screw and the hole. With all four hanging bracket holes drilled, I use some of those 0-80 bolts and have the 3/16 tubing bracket hanging under the tractor and looking good!

The next step is installing the cross tubes, which is the 1/4-by-1/4 tube which I slide though the 3/16 tubing and cut a little long so I will be able to trim to length later when I make my final assembly. With the cross tubes installed, I go back to that 3/16-by-3/16 square tubing and cut four pieces 2.5 inches long to use as the base for the tanks. With these four tubes cut, I slide them over the cross tubes and set the tanks on to give everything a good look. So far, it looks good. That means it is time to build the tank wraps/mounts.

To build the tank mounts, I try to softly bend that 2-inch flat stock and realize it will take a little more effort to get the correct bend. With the little knowledge I have about bending metal,



Parts are ready for paint.

I know the metal will have some recoil, meaning I will have to overbend the metal to get the correct finished bend. I also know that to get a correct round bend, I will have to bend the metal to a smaller diameter then the finished diameter I want because the recoil will open the diameter of the bend. The saddle tank measures 1.420 width, so a good place to start is to find a sturdy round pipe or bar with the diameter about 0.100 smaller than the tank and go from there. I look all over my shop for something round and sturdy that I could bend the brass flat stock around, but I can't seem to find anything. This is one of those moments where a little break gets taken.

While taking one of those brain breaks, it finally comes to me—what about a socket? With my caliper, I start measuring my deep well sockets and the 15/16 socket looks to be the best. I add a long extension to the socket and mount the extension in my vise and proceed to bend the 2-inch flat stock brass around the socket, but I can't seem to get enough of a bend in the metal. That's when another idea comes to my mind. I head to my little Dremel vise. Using my Dremel vise, I push the vise down tight against the flat stock, holding it tight to the socket, and proceed to squeeze the brass around the socket until the vise is tight and I have a nice round bend!

I give the saddle tank a test fit and see the recoil on the metal was still creating a loose fit to the tank, so I grab a 7/8 socket and go through the same procedure with the Dremel vise again and…drum roll! The tank fits perfectly!

With two good tank mount bottoms bent, I head back to those 3/16 square tubes that are sitting on the 1/4 cross tubes for a quick test fit and things are looking good. Now onto mounting these tank mounts to the 3/16 square tubes.

With my soldering iron plugged in, I set those 3/16 square tubes 0.800 inches apart and secure them in place. Next, I set the bottom half of the tank mount on the tubes and sure enough, it moves them, so plan B is needed. I stick some modeler's clay under the bottom to give it a little support while I solder the 3/16 tubes to the bottom. Taking my time and only soldering one corner at a time, I soon have these tubes soldered. Before I get too carried away soldering things permanently, I give things one more quick test fit. We are looking good, so I solder the parts together from end to end, making a strong bond.

With both bottoms soldered to the 3/16 tubing, I take them to my disc sander and square up the top halves of those bottom halves using my caliper to check and double check until both bases match up perfectly.

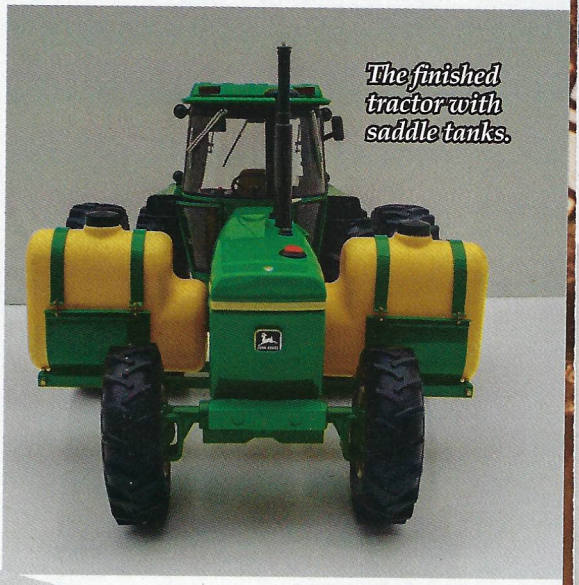
Next, I need to make the top straps and the mounts for them. First, I solder some 3/16 angle iron to the top outside of the bases. With these soldered in place, I wrap 1/4 flat stock around the 7/8 socket, creating the correct bend. I then cut them to length and solder some of that 3/16 angle iron to the ends of all four straps, making four identical straps. Finally, I drill both the strap ends and the angle iron onto the tank base and with a couple 0-80 bolts, this project is getting close!

One last task is to solder some 0-80 nuts onto the tubes. I want to do this because on the universal mount tanks I helped with, they welded nuts to the side of the tubes with bolts in them to hold everything in place, so my plan is to do the same thing. To accomplish this task, I drill some 0.052 holes into the tubes where I want the nuts to be and follow this with a tap. With the holes tapped, I use a stainless steel 0-80 bolt with a brass nut and screw the bolt into the hole then spin the nut up to the tube followed by some solder. I use stainless steel because if I was to use a brass bolt, the whole bolt nut assembly would be one unusable unit. With the stainless bolt, the bolt will screw out after the solder has been applied.

Finally, we are off to paint. I scratched my head, wondering what color I should paint these mounts. The mounts I was copying were an off-yellow color. I found mounts on the internet that were black and color matched to the tractor. Finally, I decide that no two colors go together better them green and yellow! After everything was painted, I head to final assembly using those nuts I soldered on to spin in some 0-80 bolts to hold all of the parts in place.

The sloppy fit of the 1/4 tubing and 3/16 tubing is gone now due to the paint that was applied. With everything assembled, the lids for the tanks were still missing. Could I just paint the location of the tank black? Could I scratch build some type of lid? Finally, it came to me! I open my toolbox drawer and find caps that originally covered screw heads for visors on pickups which measure 0.550 in diameter and have a nice lid shape. They were a little tall, but with a quick trip to my disc sander, I have the correct height of the "lid." With a couple of coats of flat black paint and a small dab of silicone, I now have lids on the tanks and this project is complete.

Thanks again for joining me this month. Visit www.chuckysprecisionspullersandparts.com to check out the parts for this project and many more. *TF*



The finished tractor with saddle tanks.

Living just northwest of Dyersville, Iowa, in the heart of farm country and farm toy replica country, Chuck Steffens has found a niche in the toy world, building high-detailed replicas in his spare time. He shares his experiences with Toy Farmer *readers, hoping to lead other collectors to personalize one of their own tractors. Comments or suggestions can be directed to csteffens@wildblue.net.*