

Final Part of John Deere Conversion

Hello everyone! Over the past three articles, I have been walking you through the transformation of converting a new-in-the-box Ertl Precision John Deere 5020 into its industrial version, the John Deere 700 Series A. The first article covered the wheel swap; the second article covered the front half of the tractor, including the intake manifold swap; and the last article was on the ROPS and the back half of the tractor. This month, I will take you through the numerous remaining minor changes that will really set apart the differences between the green ag tractor and the yellow industrial tractor.

Let's start where we would get on and off the tractor—midway on the left side. The first task will be adding the remote hydraulic filter. The real John Deere 700 Series A tractor uses full-length frame rails no longer allow access to the stock 5020 hydraulic filter cover, so Deere's answer was to make a remote-mounted filter and mount it to the side of the frame rail on the left side of the tractor, right under the operator's platform.

To build this feature, we take a tour through the salvage yard. Using my imagination, I look over some busted Precision John Deere 4960s; mostly the oil filter on the side of the engine! I get behind the filter with a small flat screwdriver and pop it free from the engine with a little pressure.

With the 4960 engine oil filter free, I take it back to the 700A and compare it to photos of the real tractor. I believe this is going to work. All I need to do is drill two holes into the side of the frame rails. Along with a little glue, this engine oil filter is now becoming a remote hydraulic oil filter.

Heading forward on the left side of the tractor,

the next project will be reinstalling the steps from the 5020. Adding the new brass frame rails covered the original mounting holes, so new holes will have to be drilled. To do this, I make sure the dust shields are installed. I grab the step—applying pressure to the frame rail, the mounting pins will leave a faint but noticeable mark on the brass frame. With those marks made, I carefully check everything, then use my spring-loaded center punch to mark one of the drill holes and proceed to drill it. With the first hole drilled, I then give the steps another test fit, making sure the steps are in the correct spot. Once satisfied, I drill the second hole for the steps directly under the first hole, making sure the steps are perpendicular to the frame so the steps won't have a little lean to them. All that will be needed to install them permanently after paint will be a little glue.

Traveling ahead on the left side of the tractor, we run into one of the features the industrials are known for—the hook mounted on the side of the frame. When I built my first industrial, I used a piece of 0.032x0.250 brass flat stock. I then drilled a 0.125-inch hole into the flat stock and inserted some brass rod into the hole to be soldered into place. Once soldered, I would then shape the rod and bend it to make the appearance of a hook. I added solder and shaped it until I had the correct look.

But this time, I thought I would be smarter and take advantage of the Internet to find some scale hooks used for the remote-controlled monster truck world. When the hooks arrived, I was quite disappointed in how much larger they were than what I was expecting. Nonetheless, I modified the hooks, building them much like I did when I was building them from scratch,

By Chuck Steffens | Down to Details



The 4960 engine oil filter that is now a John Deere 700 Series A hydraulic filter.



The front weights are modified and ready to be installed.



The bodywork complete on the hood and the seam line cut across it.



The seat disassembled, readying for paint.

but with aluminum instead of brass so bolts were used to hold them together. Once the hooks were built, I drilled holes on the front and rear of the hook flat stock and then drilled and tapped holes to match the frame rails and installed a couple 0.080 bolts to hold the hook to the tractor.

At the front of the tractor, we get to the starter weight and slab weights. The industrial tractor had a unique front weight setup. Like the ag tractors, the industrial tractors use two starter weights bolted to the frame and then slab weights bolted to the starter weights for the added weight. The unique thing about this setup is that the frames are shaped much differently on the ag tractors than the industrials.

Deere made a different set of starter weights that mount to the square shape of the frame, but the shape of the weight is modified to match the same slab weights the ag tractors use.

To build this setup, I start with the original 5020 front weight set and bend the starter weight set at 90 degrees to match the frame. I then place the slab weight against the starter weight and take a measurement of the gap that is now made due to the reshaping. Once that measurement has been taken, I apply auto body filler to the starter bracket and create the same shape required to match the slab weights, using my caliper to measure my progress.

With the starter weights shaped correctly, I drill two holes at the end of the starter bracket that would be used to mount the weight to the frame of the tractor, just like on the real deal. After

the weights are drilled, I drill and tap the frame of the 700A to match and mount the weights to the tractor.

With the starter weights installed, I then work on mounting the slabs to the front of the starter. For mounting the slabs, I use the original pins that mounted the slabs to the starter weights. But with the reshaping, the pins are too short to have enough solid material to mount the slabs. For this problem, I simply remove one of the five slab weights, taking it to four to give me the extra pin length needed to mount the slabs to the starter. With the pin now long enough, I modify the original hole a little with my Dremel until the slabs fit the starter weights perfectly.

We have now made it around to the right side of the tractor. One of the features for which the industrials are known is having the hour meter installed on the frame rail, rather than on the dash in the tachometer assembly. The reason for this is unknown to me. Maybe they wanted it close to the engine dipstick so operators would check these at the same time. For whatever reason, I need to install one on these tractors.

To build the hour meter bracket, I bend a piece of 0.064x0.250 brass flat stock to match the shape of the original bracket. But I added extra length to the back of the bracket and then bent this material to fit inside of the frame rail, giving the bracket extra support when it's time for it to be mounted permanently.

Now it is time to address the items on the hood. First, if a person installs a

ROPS canopy to his tractor, he is going to want to add an extension to his muffler.

Looking at the original Precision 5020 muffler, I knew it would be possible to add an extension to the muffler, but it would be real nice if I would be able to save the rain flap and add it to the top of the extension pipe for that extra flair!

To start with the extension addition, I measure the pipe diameter and find some brass tubing to match the outside diameter. Using my Dremel tool with the cutoff wheel, I cut the muffler all the way around the muffler pipe right under the rain cap. With this original cut made, I carefully trim the area around this cut again with the Dremel until the diameter of the muffler pipe is the same as the inside diameter of the brass tube I want to add. I then make a clean cut right through the middle of this area, leaving equal material on the top and bottom to fit and glue the extension tube to both the muffler and the rain cap. I then take a 1.500 piece of that brass tubing and fit it between the muffler and the rain cap, adding a little glue to hold everything in place to make a permanent extension that keeps the noise and smoke above the operator.

A couple more small things to the hood and we will be in business. When I made the new hood, I cut off the area where the fuel cap would have been. To fix this, I drill the hood to match the holding pin on the bottom of the fuel cap, making it a secure fit with a little glue during final assembly. Another item that needs attention

were the grab handles. While building the tractor, the plastic grab handles on the hood managed to break, so my solution was to remove the plastic handles completely and replace them with aluminum ones. First, I drill the old handles out and then, using a needlenose pliers, I bend some small aluminum rod to match the shape of the original handles and here again glue them into place.

Now there needs to be bodywork done to the hood to give it that final finesse. Using my angle die grinder, I grind the hood area to give the filler something to grab onto and then apply a nice thin layer to the hood. Once the filler has dried, I use some 80 grit on a sanding block to shape the filler to match the correct shape the hood needed to be.

The final task with the hood is recreating the hood seam across the front of the hood where the hood meets the nosepiece. To give this line the correct look can be kind of a big deal. The middle of the hood is one of the first things a person notices. If it is off just a little bit, or has just a little curve, everyone will see it.

To make this cut in the filler, I place a piece of 2-inch masking tape across the hood, making sure the tape is straight and correct. With the tape giving me the correct line, I then CAREFULLY use my Dremel with the cutoff blade to make a shallow cut right next to the tape. With this first Dremel cut made, I then use a hack saw blade and CAREFULLY finish the line across the hood until I am satisfied with the line.

This SHOULD be the end of the modification to the tractor. There still is a ton of paint and primer work to be completed. The precleaner will have to come apart so that the plastic bowl does not get painted. Using an X-Acto blade between the bowl and the top will have the top off in no time. Then things like the seat will have to come off. Using a little pressure, pop the glue loose and it will come apart.

Then do the paint prep. I use a combination of chemical strippers and mechanical strippers to remove any unwanted paint. Getting to the bare material is best. Any area that had auto body filler will receive a coat of epoxy primer, followed by two coats of fill primer. Any area that was touched with the grinder will receive the same treatment. If the parts are plastic, I spray them with a plastic adhesive

promoter before the epoxy is applied.

Once each of the parts has been primed, I sand the primer with a 240-grit sandpaper, followed with a 400-grit wet sandpaper and a thorough washing before being wiped down with a wax and grease remover and finally another coat of epoxy primer, followed by two coats of automotive base coat for color and finally a coat of automotive clear coat for the shine and protection.

These four tractors had a total of 268 individual parts that had to be painted one, two or even three times to get the color and finish, but it sure is nice when it all starts to have that shine and dry enough to start putting the tractor together.

After four months of building, it is amazing how much things can change with what would seem like a simple coat of color. The little details that you put into the piece start to come alive. Before you know it, you will be applying decals and giving it that final cleaning, readying the tractor for the shelf where you will find yourself gazing at it for hours, remembering the hours of work and craftsmanship that were put into the tractor. That is what makes this hobby so great for me. The work may seem daunting at times, but the reward for the hours pay back for years to come!



The tool of the month—my forceps collection with all of their painted glory!

Tool of the Month

Enough of me gushing over this project. It is time to get to our tool of the month. This month, the tool of focus is the medical forceps I use for parting the 268 individual parts of this project. I found these forceps to be almost invaluable in the painting process. With so many small parts, how do you hold all of them without dropping them and still be able to have full control of the piece? I found these forceps to be the answer.



They can be bought for around \$2 each on eBay, have a locking jaw, and are light enough to handle, yet heavy enough to hold an item without moving. They also have the finger holes in the handles that work great if you want to hang them. I have managed to collect 56 of these forceps through the years. Along with a couple vise grips, it took me five batches of parts to get all of them painted, but not one part was dropped or missed thanks to the lovely inexpensive clamps.

Well, I hope you learned a thing or two over these four articles that you can improvise into your own build. I know not everyone will tackle a build like this, but you may be able to use some of the information on your own project.

Until next time, feel free to contact me at csteffens@wildblue.com with any questions, comments or suggestions for future builds.

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The tractor's preassembly is complete and we are close to being able to paint.

The John Deere 700 Series A next to the original Precision John Deere 5020.



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.

